

## MITIGATION AGREEMENT

BETWEEN

LEWIS COUNTY PUBLIC UTILITY DISTRICT

AND

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

THIS AGREEMENT is made and entered into by and between the LEWIS COUNTY PUBLIC UTILITY DISTRICT (PO Box 330, Chehalis, Washington 98532) hereinafter referred to as "LCPUD" and the WASHINGTON STATE DEPARTMENT OF FISH AND WILDLIFE (600 Capitol Way North, Olympia, Washington 98501-1091) hereinafter referred to as "WDFW."

### INTRODUCTION

Lewis County Public Utility District (LCPUD) owns and operates the Cowlitz Falls Hydroelectric Project (Project) on the Cowlitz River in Lewis County, Washington. The Project operates in a run-of-the-river mode, with periodic drawdowns of the reservoir at high flows to minimize upstream flooding and to assist with downstream sediment transport. In February 2003, during a high flow event (river stage in excess of 50,000 cfs), the Project's sluice gates became stuck in the open position and were rendered inoperable, creating an operational emergency.

Following consultation with the Federal Energy Regulatory Commission (FERC), the Washington Department of Fish and Wildlife (WDFW), the National Marine Fisheries Service (NMFS), and other interested agencies, LCPUD developed plans for a series of two reservoir drawdowns to repair the damaged sluice gates. Both drawdowns were conducted with FERC concurrence and in accordance with Hydraulic Project Approvals (HPAs) obtained from WDFW (issued February 20, 2003 and August 25, 2003). The first drawdown occurred from February 19 to February 21, 2003, and entailed lowering the reservoir pool approximately 14 feet to prepare a mooring site for the project's debris deflector. The second drawdown began on September 5, 2003, and involved lowering the reservoir in stages until it reached an essentially riverine state. With the assistance of WDFW personnel, LCPUD conducted fish rescue and recovery programs in connection with each of the drawdowns.

During the September drawdown, a large amount of sediment was unexpectedly released over an eight-day period, resulting in an accumulation of sediment to a depth of 20-25 feet for approximately 600 feet below the dam, and extended at a lesser depth for approximately 1.5 miles downstream. It is estimated that as much as 680,000 cubic yards of sediment was released, potentially impacting fish, wildlife, and habitat. Although the sediment deposits were substantial, they proved to be temporary; the deposits were moved downstream into Riffe Lake during the subsequent six to ten weeks as higher fall and winter flows occurred.

The terms of the HPAs under which the reservoir drawdowns were conducted required LCPUD to develop and implement a plan that fully mitigates for losses of fish life, and fish habitats, that result from the

drawdowns. LCPUD and the Washington Department of Fish and Wildlife (WDFW), with input from the U.S. Fish and Wildlife Service (USFWS), and the U.S. Forest Service (USFS), negotiated the following measures to mitigate for the impacts caused by the sediment release.

## SCOPE OF WORK/TASKS

The various parties involved in this mitigation project have agreed to perform the below described tasks. A summary of the tasks, deliverables (if any), reimbursable values, and due dates is attached hereto and incorporated herein as Exhibit 1.

### I. Adult Cutthroat Trout Dispersal Evaluation

- A. *Background.* Following construction of the City of Tacoma's dams on the Cowlitz River, the sea-run component of the cutthroat trout population became an adfluvial population utilizing Riffe Lake. When the Cowlitz Falls Project was later completed, biologists became aware that cutthroat smolts were being collected along with the three species of anadromous fish (steelhead, coho and chinook) being reintroduced into the upper Cowlitz River Basin. The cutthroat smolts were uniquely marked and later returned as adults in small numbers (2- 30 fish/year) to the Cowlitz Hatchery. These sea-run cutthroat adults are returned to the upper river one or two at a time by WDFW personnel. Very little is known about their fate following release into the upper Cowlitz River Basin. Biologists have shown considerable interest in the sea-run cutthroat adults that have been returning to the upper Cowlitz River, in large part because these fish are considered to be truly wild fish.

An adult sea-run cutthroat radio telemetry "pilot" project was initiated in 2002-2003 to evaluate dispersal throughout the upper Cowlitz River Basin. The program was not funded in 2003 or 2004. The current mitigation proposal would continue the cutthroat dispersal evaluation by funding a radio telemetry evaluation in 2005 and 2006.

- B. *Funding.* LCPUD shall fund a radio telemetry evaluation in 2005 and 2006, for the purpose of evaluating cutthroat trout dispersal. An estimated total cost for 2 years of evaluation is \$78,520, or approximately \$35,185 per year (for details see Exhibit 1 – Project Tasks/Budget). Payment to WDFW from LCPUD will be deliverables based as follows:

09/15/06	Progress Report #1 to LCPUD	Payment of \$17,592 -10% Holdback
09/15/07	Progress Report #2 to LCPUD	Payment of \$17,593 -10% Holdback
03/31/08	Final Report to LCPUD	Release of 10% Holdback

If adult cutthroat returns are not sufficient to achieve the agreed upon total target sample size of 30 tagged fish over the two-year period, then LCPUD shall fund a third year of evaluation in 2007.

- C. *Study Plan.* WDFW, PSMFC and LCPUD, with assistance from USGS, shall jointly conduct the dispersal evaluation in accordance with the "Adult Cutthroat Trout Dispersal Evaluation Study Plan," attached as Appendix "A" and incorporated herein. The study goals shall include, but not be limited to: an evaluation of dispersal from Lake Scanewa; identification of key holding habitats; and identification of spawning locations.

## II. Anadromous Adult Fish Release Chutes

- A. *Background.* As part of the Bonneville Power Administration (BPA) Anadromous Fish Re-Introduction Program, Tacoma Power currently releases anadromous fish adults in the upper Cowlitz River by releasing them in Lake Scanewa. Due to elevated water temperatures in Lake Scanewa (water temperatures exceeded 20 degrees Celsius from mid-July through late August 2004) and access and erosion problems at an alternate release site on the Cispus River, LCPUD has agreed to fund improvements at an alternate release site in an attempt to improve Chinook salmon survival.
- B. *Funding.* LCPUD shall make funds available to WDFW for the fish release chute improvements in an amount not to exceed \$7,000 (for details see Exhibit 1 – Project Tasks/Budget). Payment to WDFW from LCPUD will be deliverables based. Payment of \$7,000 will be made to WDFW upon completion of this task and submission of a Letter of Completion to LCPUD.
- C. *Chute Construction.* WDFW, or other entity as agreed to by WDFW and LCPUD, shall be responsible for site access, permitting and constructing the fish release chute, with the funds provided by LCPUD.

## III. Marking Hatchery Juvenile Fish

- A. *Background.* In recent years, the Bonneville Power Administration has funded the marking of juvenile hatchery fish prior to out planting them in the upper Cowlitz watershed. The goal of this program is to distinguish naturally produced fish (wild) from hatchery fish at the Cowlitz Falls Fish Facility (CFFF). The current mitigation proposal would continue the hatchery fish marking program for late winter steelhead and spring chinook fry and/or parr by providing funding for each species for the years 2005 and 2006. The estimated cost for the marking program is up to \$9,500 for each of the two years, for a total of \$19,000 (for details see Exhibit 1 – Project Tasks/Budget).
- B. *Funding.* LCPUD shall directly fund up to \$9,500 each year for two years, for fish marking as described above. LCPUD shall make available \$4,750 for Chinook marking no later than May 31 of each year, and \$4,750 for steelhead marking no later than October 10 of each year. A Letter of Completion shall be sent from LCPUD to WDFW within forty-five days of completion of this task each of the two years.
- C. *Contingency.* In the event WDFW makes a determination in the future that the marking program as described above is inconsistent with other WDFW programs, or WDFW and LCPUD determine that the fish marking is inconsistent with the Cowlitz River Fisheries Hatchery Management Plan currently being developed, WDFW and LCPUD shall identify an alternative mitigation measure to be funded by LCPUD at levels consistent with paragraph B.

## IV. Riparian Plantings In Kiona Wildlife Management Unit And Section 32

- A. *Background.* In 1993, as part of the original Project mitigation, LCPUD completed riparian vegetation planting in the Kiona Wildlife Management Unit. In 1998, LCPUD voluntarily increased the width of the riparian corridor in the Kiona Unit to between 75 and 150 feet. The current

proposal is to plant additional trees and shrubs within the Kiona Wildlife Management Unit and to protect them in order to fill many of the habitat gaps, which currently exist in the riparian zone. In addition, LCPUD shall revegetate portions of Section 32.

- B. *Funding.* LCPUD shall fund up to \$5,000 for the implementation of a riparian vegetation plan as described further below, and which shall cover the cost of plant materials, protective fencing for trees, bark to reduce evaporation, supervision, and labor. LCPUD shall be responsible for implementing the vegetation plan (for details see Exhibit 1 – Project Tasks/Budget).
- C. *Vegetation Plan.* By November 1, 2005, LCPUD shall develop and finalize a vegetation plan, in consultation with WDFW, for vegetating portions of both the Kiona Wildlife Management Unit and Section 32. The plan shall include riparian planting goals and objectives, as well as a monitoring and contingency component, including measures to ensure an 80% survival rate within the first year of planting. In addition, LCPUD shall provide WDFW with a semi annual report of all activities under the vegetation plan, as required under Section- REPORTING REQUIREMENT, and shall provide the July 31 report due every year at the Annual Walk Through (previously agreed to annual inspection). In implementing the vegetation plan, LCPUD shall also follow the guidelines suggested by the Lewis County Conservation District, attached as Appendix "B" and incorporated herein. Initial plantings under the plan shall be completed by March 2006. If less than 80% survival rate is realized, LCPUD will replant an amount equal to the loss to meet the 80% requirement. A Letter of Completion shall be sent from LCPUD to WDFW within forty-five days of completion of this task.

V. Riparian Plantings Along Yellowjacket Creek

- A. *Background.* In 2004, the USFS enhanced the Yellowjacket Creek floodplain habitat with the placement of large woody material (LWM) in and around the floodplain, pursuant to an agreement with LCPUD. (See *Challenge Cost-Share Agreement Between Lewis County Public Utility District and United States Department of Agriculture, Forest Service, Gifford Pinchot National Forest*, attached as Appendix "C" and incorporated herein). Yellowjacket Creek is a tributary of the Cispus River within the Cowlitz Basin. This area of the Cispus River Basin is one of the few in the upper Cowlitz Basin where all three species of reintroduced anadromous fish are spawning successfully. The floodplain habitat could be further enhanced through the use of riparian plantings immediately adjacent to the structures placed by the USFS.
- B. *Funding.* No later than September 15, 2006, LCPUD shall provide up to \$5,000 to the USFS to implement the riparian vegetation project described in this section (for details see Exhibit 1 – Project Tasks/Budget).
- C. *Riparian Vegetation.* LCPUD shall ensure that the funding provided in this section be used for the planting of riparian vegetation along Yellowjacket Creek in those areas immediately adjacent to the woody debris structures that were constructed in 2004, or along the access routes to the structures. If there are any excess funds or trees/vegetation, LCPUD, via the USFS, shall apply them to the Cispus River enhancement sites that were completed in 1998, starting with Site "B". A Letter of Completion shall be sent from LCPUD to WDFW within forty-five days of completion of this task.



## VI. Large Woody Debris Transport

- A. *Background.* The USFS has been enhancing riverine habitats throughout the Cispus River watershed for the better part of the last decade. The primary technique has been the careful placement of LWM into debris jams or smaller individual placements throughout the floodplain. The work is consistent with BPA's anadromous fish reintroduction program for the upper Cowlitz Basin. This provision obligates LCPUD to provide funds to the USFS for transport of additional LWM in the upper Cispus River Basin. A Letter of Completion shall be sent from LCPUD to WDFW within forty-five days of completion of this task.
- B. *Funding.* No later than September 30, 2006, LCPUD shall provide up to \$1,750 to USFS to assist with the transport of LWD to the upper Cispus River Basin (for details see Exhibit 1 – Project Tasks/Budget).

## REPORTING REQUIREMENT

In addition to the required progress reports from WDFW and the various completion reports, LCPUD shall submit semi-annual progress reports on all tasks they are responsible to perform under this agreement to WDFW (January 31 and July 31), with copies to the USFWS, until such time that the work is completed.

## TERMS AND CONDITIONS

All rights and obligations of the parties to this agreement shall be subject to and governed by the Terms and Conditions contained in the text of this agreement.

## BILLING PROCEDURE

LCPUD will reimburse WDFW in an amount not to exceed \$42,185 upon receipt of properly executed invoices. Claims for payment submitted by WDFW to LCPUD for costs due and payable under this agreement that were incurred prior to the expiration date shall be paid by LCPUD if received within 60 days after the expiration date.

## RECORDS MAINTENANCE

LCPUD and WDFW shall each maintain books, records, documents and other evidence which sufficiently and properly reflect all direct and indirect costs expended by either party in the performance of the services described herein for a period not less than five years. These records shall be subject to inspection, review or audit by personnel of both parties, other personnel duly authorized by either party, the Office of the State Auditor, and federal officials so authorized by law.

## PROJECT MANAGEMENT

The work described herein shall be performed under the coordination of the below listed Project Managers, or their successors, who will provide assistance and guidance to the other party necessary for the performance of this agreement. Copies of all required reports, letters of completion, etc., shall be sent to the below listed persons and at the addresses provided herein.

**FOR LCPUD:**

Dave Muller  
Lewis County Public Utility District  
PO Box 330  
Chehalis, Washington 98532  
Phone: (360) 740-2411  
Email:

**FOR WDFW (#1):**

Charles Morrill  
Department of Fish and Wildlife  
600 Capitol Way North  
Olympia, Washington 98501-1091  
Phone: (360) 902-2747  
Email: morricfm@dfw.wa.gov

**FOR WDFW (#2):**

Lauri Vigue  
Department of Fish and Wildlife  
600 Capitol Way North  
Olympia, Washington 98501-1091  
Phone: (360) 902-2425  
Email: viguelav@dfw.wa.go

**INDEMNIFICATION**

Each party shall defend, protect and hold harmless the other party from and against all claims, suits and/or actions arising from any negligent or intentional act or omission of that party's employees, agents and/or authorized subcontractor(s) while performing this contract.

**AMENDMENT OF AGREEMENT**

This Agreement may be amended by the mutual agreement of WDFW and LCPUD. Such amendments shall not be binding unless they are in writing and signed by personnel authorized to bind each of the Parties.

**TERMINATION**

Except as otherwise provided in this agreement, either party may terminate this agreement upon 30 days written notification. If this agreement is so terminated, the terminating party shall be liable only for performance in accordance with the terms of this agreement for performance rendered prior to the effective date of termination.

**TERM OF AGREEMENT**

This Agreement becomes effective as of August 1, 2005 and continues in force until March 31, 2008, unless otherwise modified as provided herein. Should this contract be extended past the above termination date it will include carry over of any unspent funds to further enhance the goals of this agreement.

**DISPUTE RESOLUTION**

It is anticipated that any dispute that arises under this Agreement will be resolved by the respective staffs working directly on this matter. Should that not be possible, disputes shall be elevated through the respective chain of command up to the Director of WDFW and the Manager of LCPUD. In the unlikely event that a dispute should remain unresolved through this process, either party may submit the dispute for mediation, with each party sharing the mediation costs. In the event that mediation is employed but is concluded without a satisfactory resolution, each party reserves the right to avail itself of any appropriate legal or equitable remedies that may be available.

**ASSIGNMENT**

This agreement shall be binding on all successors and assignees.

### ORDER OF PRECEDENCE

In the event of an inconsistency in this agreement, unless otherwise provided herein, the inconsistency shall be resolved by giving precedence in the following order:

- a) Applicable Federal and State Statutes and Regulations;
- b) The Terms and Conditions of this contract, including the Statement of Work; and
- c) Any other provisions of the contract whether incorporated by reference or otherwise.

### ENTIRE AGREEMENT

This Agreement and attached Exhibits and Appendices represent the entire Agreement and understanding of the Parties. Potential conflicts between this Agreement and any language in the Exhibit or Appendices shall be resolved in favor of this Agreement.

IN WITNESS WHEREOF, the below signing parties have executed this agreement.

LEWIS COUNTY PUBLIC UTILITY DISTRICT

WASHINGTON STATE DEPARTMENT OF FISH  
AND WILDLIFE

Signature: David Muller

Signature: \_\_\_\_\_

Print Name: David Muller

Print Name: William C. Brooks, C.P.M.

Title: Manager

Title: Contracts Officer

Date: October 20, 2005

Date: \_\_\_\_\_

# EXHIBIT 1

## PROJECT TASKS / BUDGET

TASK	RESPONSIBLE PARTY	DELIVERABLE	EST. DUE DATE*	REIMBURSEMENT TO WDFW	BUDGET AMOUNT
I. Adult Cutthroat Trout Dispersal Evaluation	WDFW	Progress Report #1	09/15/06	\$17,592 – 10%	**\$35,185
		Progress Report #2	09/15/07	\$17,593 – 10%	
		Final Report	03/31/08	Release 10%	
PSMFC to work with WDFW to Complete Task	LCPUD - Contract to PSMFC	N/A	N/A	N/A	\$27,080
LCPUD to work with WDFW to Complete Task (radio tags and mileage costs)	LCPUD	N/A	N/A	N/A	\$16,255
II. Anadromous Adult Fish Release Chutes	WDFW	Letter of Completion to LCPUD	03/31/08	\$7,000	**\$7,000
III. Marking Hatchery Juvenile Fish	LCPUD Contracted Service	Letter of Completion to WDFW	10/31/06	N/A	\$19,000
IV. Riparian Planting In Kiona WMU & Sec. 32	LCPUD	Letter of Completion to WDFW	03/31/06	N/A	\$5,000
V. Riparian Planting Along Yellowjacket Creek	LCPUD - Contract to USFS	Letter of Completion to WDFW	09/30/06	N/A	\$5,000
VI. Large Woody Debris Transport	LCPUD - Contract to USFS	Letter of Completion to WDFW	09/30/06	N/A	\$1,750
<b>Total Project Budget</b>					<b>\$116,270</b>

\*Due dates are estimated and may be adjusted upon agreement between the Project Managers designated herein.

\*\*Amounts payable to WDFW under this agreement

Cowlitz Falls Fish Facility  
1379 B Falls Road  
Randle WA 98377  
Phone (360) 497-5652

Date: February 28, 2005, *Revised March 28, 2005*

To: Charles Morrill, Lauri Vigue, Steve Bell (WDFW)  
Michelle Day, Blane Bellerud (NOAA-Fisheries)  
Brian Peck (USFWS)  
Mike Kohn (LCPUD/BPA)  
Debbie Carlson (BPA)

From: John Serl, WDFW-Cowlitz Falls

***Subject: Implementation Plan for Adult Cutthroat Radio-Telemetry Study.***

The cutthroat populations in the Cowlitz River Basin (Basin) above Cowlitz Falls Dam have continued to produce migrants capable of anadromy even after the construction of Mossyrock (1968) and Mayfield (1962) Dams created an anadromous barrier. With the initiation of trap and haul smolt collection at Cowlitz Falls Dam, the number of anadromous cutthroat adults returning to the upper Basin has ranged from two to 30 per year. The overall goal of the Adult Cutthroat Radio-Telemetry Study (Study) is to learn if these fish are dispersing upstream from the Lake Scanewa release site to spawning areas at acceptable rates. This will also lead to an understanding of where these anadromous cutthroat are produced and what sub-populations have retained anadromy within their life history patterns.

- Objectives: (1) To determine adult anadromous cutthroat dispersal, including fallback rate and pre-spawning holding area.  
(2) To determine spawning location and success of anadromous cutthroat trout in the upper Cowlitz River Basin.

This Study will be conducted over at least two years with at least 30 radio tagged fish released. The methods will be similar for both years, unless results from the first year suggest substantial revision to the methods are needed. The WDFW/PSMFC staff of the Cowlitz Falls Fish Facility will conduct a majority of the work with technical support from the USGS-Columbia River Research Lab and supplemental mobile tracking conducted by LCPUD personnel.

***Task 1: Set up fixed sites, assemble equipment***

This task will be conducted by USGS with assistance from WDFW/PSMFC staff. Receiver sites will be set up on and below Cowlitz Falls Dam. There is a potential for up to two remote sites each in the Cowlitz and Cispus Rivers. The number of upstream sites depends on the availability of receivers and security of receiver sites. The USGS will provide technical guidance as to the most appropriate tag and equipment to use. Tags will last a minimum of 9 months to ensure detection throughout the spawning period. Tag life and features (temperature/mortality sensors) should be balanced to maintain tag size that will minimize interference with spawning activity.

*Task 2: Tag returning cutthroat adults*

This task will be completed by WDFW/PSMFC staff. There will be 20 tags available for the first year, with a tagging schedule of tagging the first ten fish, then every other fish thereafter. There will be 15 tags available for the second year, tagging the first five fish and then every other fish thereafter.

We expect the first adults to arrive in August. These fish will be transported to the CFFF and will acclimate overnight in ambient water. After acclimation, the fish will have a radio tag surgically implanted following standard USGS protocols. Biological data will be collected from each fish tagged. The fish will be allowed to recover overnight and will then be released into Lake Scanewa the following morning. If the water in Lake Scanewa is very warm (above 19°C), we may decide not to tag the first arrivals until water temperatures have cooled or find an alternative tagging location.

*Task 3: Download Data from and maintain fixed receiver sites*

Fixed receiver sites will be downloaded and maintained a minimum of once per week. Sites located at the Cowlitz Falls Dam will be downloaded twice per week. This involves downloading stored data from the receiver, resetting the receiver, checking receiver function and replacing batteries as needed. Primarily WDFW/PSMFC crews will conduct this task with USGS assistance. Remote sites will be downloaded and maintained in conjunction with the mobile tracking trips.

*Task 4: Mobil track tagged cutthroat adults*

Mobile tracking will be conducted at least once per week, from late August through May of the following year. WDFW/PSMFC crews will conduct the tracking and receiver downloading once per week. LCPUD will provide an additional day of tracking during periods when the tagged fish are moving or significant numbers of fish are not located during the first trip. Inclement weather conditions during the winter may limit this work. Mobil tracking will consist of driving a radio telemetry receiver and antennae equipped vehicle on a route that will take the vehicle within detection range of most of the anadromous portions for the Basin. The location of tagged fish will be as recorded as tributary and river mile, with a minimum of GPS location and signal compass heading. Where feasible, additional data for each fish location will include the GPS coordinates, habitat type, and appropriate physical parameters (i.e. temperature, depth, velocity, substrate). If more than 25% of the tags have not been detected by ground tracking by the end of January, then an aerial (helicopter) tracking survey will be scheduled.

*Task 5: Report results*

Weekly data summaries and updates will be distributed by e-mail interested parties, including representatives of parties to the mitigation agreement. Data analysis and report writing will be the responsibility of WDFW, with advice from USGS and LCPUD. An annual update will be produced after the first season, with a draft produced within 90 days after the completion of field work in 2006. A completion report will be produced within one year of finishing the field work in 2007. If a third study year is necessary, an additional annual report will be produced and the completion report delayed for one year.

*Proposal for low cutthroat return*

A total of at least 30 radio tagged cutthroat adults will be released for this study. However, if less than eight cutthroat are tagged by December 15<sup>th</sup> of a study year, effort for that year will be minimized and an additional year added, for a total study of up to three years. If less than 15 cutthroat are tagged in the first year, additional fish will be tagged for the second year of the study.

## ***Cowlitz Falls Habitat Project***

### ***Mike Kohn***

*Kelly Verd, Mike Kohn, and I walked through the wildlife/fish habitat project. Mike Kohn was interested in the tree and shrub species that would be best suited for the site. The soil is sandy which makes the establishment of seedlings difficult due to lack of nutrients and excessively drained conditions. Other concerns with establishment are wildlife browse and girdling.*

*Currently there are Douglas Fir, Alder, Big Leaf Maple, Western Red Cedar, and Hemlock trees in the surrounding areas and the shrubs consisted of Red Osier Dogwood, Pacific Crabapple, Pacific Willow, Indian Plum, and Oregon Grape. We observed beaver activity, deer and elk browse. Mike Kohn informed us that control measures were being used to eradicate the Scotch Broom that was present on the site. If funds allowed my recommendation would be*

- 1. Site preparation of tilling or Hygrotilling the areas to be planted to control the competing vegetation.*
- 2. Planting native vegetation to include but not limited to Douglas Fir, Western Red Cedar, Bigleaf Maple, Willow, Red Osier Dogwood, Indian Plum, Pacific Crabapple, Ninebark, Douglas Spirea, Kinnikinnick, Rose, Salmonberry, and Vine Maple. Other native species may also do well at this site.*
- 3. Due to the extremely dry spring watering during planting and at least once during the summer is recommended.*
- 4. Tree protection solid wall tree protectors 12-18 inches tall would be installed using a stake on all trees and shrubs excluding the willow. This would protect against the mice and the beaver to some extent. The other protection that may be needed would be a deer and elk deterrent. There is netting that can be installed on the species prone to browse or a spray that would need reapplied at least four time per year could be used to protect seedlings.*
- 5. Maintenance for 3-5 years - the competing vegetation can be controlled be mowing or spraying the competing vegetation, if an herbicide may be used I recommend contacting the Lewis County Noxious Weed Board for recommendations.*

***Nikki Wilson***  
***Lewis County Conservation District***



NFS Agreement No.	05-CS-11060300-018
Cooperator Agreement No.	
	8/12/05

CC: CFP  
Mike  
Steve  
File

**CHALLENGE COST-SHARE AGREEMENT  
BETWEEN  
PUBLIC UTILITY DISTRICT NO. 1 OF LEWIS COUNTY  
AND  
UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
GIFFORD PINCHOT NATIONAL FOREST**

This Challenge Cost-Share agreement is entered into by and between Public Utility District No. 1 of Lewis County, hereinafter referred to as the PUD, and the United States Department of Agriculture Gifford Pinchot National Forest, hereinafter referred to as Forest Service, under the provisions of the Department of Interior and Related Agencies Appropriation Act of 1992, P.L. 102-154.

I. **PURPOSE:** The purpose of this Challenge Cost-share Agreement is to document the mentioned party's intent to work cooperatively to implement a variety of fisheries and watershed improvement projects of mutual benefit.

II. **STATEMENT OF MUTUAL INTEREST AND BENEFITS:**

The PUD is a non profit municipal corporation of the State of Washington serving the residents of Lewis County. The PUD's mission is to provide a low-cost reliable source of electrical energy and quality service commensurated with prudent business practices to present and future Lewis County residents. The PUD through ownership of the CFP has an interest in fisheries improvements in the upper Cowlitz River Watershed.

The Forest Service manages the National Forest lands in the upper Cispus and Cowlitz River watersheds. Part of the mission includes managing watershed health and specifically habitat for fisheries. The Forest Service has been actively planning and implementing watershed improvement projects in the Cispus River drainage.

The Lower Yellowjacket Creek Floodplain Restoration Project is a proposal to stabilize the lower Yellowjacket Creek channel, create fish habitat, and revegetate the floodplain while providing education of the recovery process.

The project will improve the lower portion of Yellowjacket Creek by stabilizing the floodplain; providing improved habitat for Spring and Fall Chinook Salmon, Coho Salmon, Steelhead Trout, and Sea-Run Cutthroat; and revegetating the floodplain to create shade and create riparian habitat. This project and its results will be interpreted by students from the Cispus Learning Center and White Pass Discovery Team.

The PUD has been involved in fisheries conservation, education and assisted in restoration. In addition to providing funding, the PUD brings technical and administrative oversight. The Forest Service has, as part of its mission, fisheries and wildlife habitat conservation and enhancement.

NFS Agreement No.	05-CS-11060300-018
Cooperator Agreement No.	
	8/12/05

III. PUD SHALL:

1. Support watershed and/or fisheries restoration projects with funding, materials and technical staff assistance. This will not to exceed \$6750.
2. Reimburse the Forest Service for \$6,750 in restoration activities in Yellowjacket Creek including planting and log haul (for large wood installation).

IV. THE FOREST SERVICE SHALL:

1. Provide staff to develop, design and prepare contracts for watershed restoration improvements.
2. Bill the PUD for their agreed upon expenses in restoration projects along Yellowjacket Creek (see financial plan).

V. IT IS MUTUALLY UNDERSTOOD AND AGREED BY AND BETWEEN THE PARTIES THAT:

1. TAXPAYER IDENTIFICATION NUMBER. The cooperator shall furnish their tax identification number upon execution of this instrument. PUD's TIN 91-6001031

2. FREEDOM OF INFORMATION ACT (FOIA). Any information furnished to the Forest Service under this instrument is subject to the Freedom of Information Act (5 U.S.C. 552).

3. ALTERNATE DISPUTE RESOLUTION. In the event of any issue of controversy under this Agreement, the parties may pursue Alternate Dispute Resolution procedures to voluntarily resolve those issues. These procedures may include, but are not limited to conciliation, facilitation, mediation, and fact finding.

4. RETENTION AND ACCESS REQUIREMENTS FOR RECORDS. The Forest Service, Inspector General, or Comptroller General, through any authorized representative, shall have access to and the right to examine all records related to this instrument. As used in the provision, "records" includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form. All records pertinent to the award shall be retained for a period of 3 years.

5. MODIFICATION. Modifications within the scope of the instrument shall be made by mutual consent of the parties, by the issuance of a written modification, signed and dated by all parties, prior to any changes being performed.

NFS Agreement No.	05-CS-11060300-018
Cooperator Agreement No.	
	8/12/05

The Forest Service is not obligated to fund any changes not properly approved in advance.

6. NONDISCRIMINATION. The PUD shall comply with all Federal, State and Local statutes relating to nondiscrimination and all applicable requirements of all other Federal laws, Executive orders, regulations, and policies. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d, 2000e-16), which prohibits discrimination on the basis of race, color, disability, or national origin; (b) Title IX of the Education amendments of 1972, as amended (20 U.S.C. 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; and Section 504 of the Rehabilitation Act of 1973 as amended (29 U.S.C. 794) which prohibits discrimination on the basis of disabilities. The nondiscrimination statement which follows shall be included, in full, on all materials that are produced by the cooperator for public information, public education, or public distribution:

"In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability. (Not all prohibited bases apply to all programs.)

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer."

If the material is too small to permit the full statement to be included, the material will at minimum include the statement, in print size no smaller than the text, that "This institution is an equal opportunity provider."

7. LEGAL AUTHORITY. The PUD has the legal authority to enter into this instrument, and the institutional, managerial and financial capability (including funds sufficient to pay nonfederal share of project costs) to ensure proper planning, management, and completion of the project.

8. PARTICIPATION IN SIMILAR ACTIVITIES. This instrument in no way restricts the Forest Service or the PUD from participating in similar activities with other public or private agencies, organizations, and individuals.

9. COMMENCEMENT/EXPIRATION DATE. The instrument is executed as of the date of the last signature and is effective through September 30, 2009 at which time it will expire unless extended.

10. TERMINATION. Any of the parties, in writing, may terminate the instrument in whole, or in part, at any time before the date of expiration.

Neither party shall incur any new obligations for the terminated portion of the instrument after the effective date and shall cancel as many obligations as possible. Full credit shall be allowed for each Party's expenses and all non-cancelable obligations properly incurred up to the effective date of termination.

NFS Agreement No.	05-CS-11060300-018
Cooperator Agreement No.	
	8/12/05

11. PRINCIPAL CONTACT. The principal contacts for this instrument are:

Forest Service Project Contact	PUD Project Contact
Terry Lawson	Mike Kohn
10024 US Hwy 12	Lewis County Public Utility District
Randle, WA 98377	P.O. BOX 330
	Chehalis, WA 98531
Phone: 360-497-1170	Phone: (360) 497-5026
FAX: 360-497-1102	FAX:
E-Mail: <a href="mailto:tlawson@fs.fed.us">tlawson@fs.fed.us</a>	E-Mail: <a href="mailto:CFPISH@I-LINK-2.NET">CFPISH@I-LINK-2.NET</a>

Forest Service Administrative Contact	PUD Administrative Contact
Kellie Hamilton	Same as above.
Gifford Pinchot National Forest	
10600 NE 51 <sup>st</sup> Circle	
Vancouver, WA 98682	
Phone: (360) 891-5083	Phone:
FAX: (360) 891-5045	FAX:
Email: <a href="mailto:kelliehamilton@fs.fed.us">kelliehamilton@fs.fed.us</a>	

12. AVAILABILITY OF FUNDS. Forest Service funds in the amount of \$0 are currently available for performance of this instrument through September 30, 2009. The Forest Service's obligation for performance of this instrument beyond this date is contingent upon the availability of appropriated funds from which payment can be made. No legal liability on the part of the Forest Service for any payment may arise for performance under this instrument beyond September 30, 2005, until funds are made available to the Forest Service for performance and until the cooperator receives notice of availability by written modification by the Forest Service.

**PUBLIC UTILITY DISTRICT NO. 1 OF LEWIS COUNTY**

David Muller  
PUD Representative

August 24, 2005  
Date

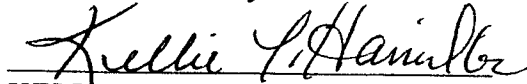
**USDA FOREST SERVICE**

Claire Lavenel  
CLAIRE LAVENDEL  
Forest Supervisor

September 2, 2005  
Date

NFS Agreement No.	05-CS-11060300-018
Cooperator Agreement No.	
	8/12/05

This agreement has been reviewed and approved for signature  
under this authority.



KELLIE HAMILTON

Grants & Agreements Specialist  
USDAFS, WWAAT

NFS Agreement No.	05-CS-11060300-018
Cooperator Agreement No.	
	8/12/05

**Financial Plan**

Cost Elements	Forest Service			Lewis County PUD			(j) Total
	(a) Non-Cash Contrib.	(b) Value of In-Kind Contrib.	(c) Reimb. Coop #1 Expenses	(d) Non-Cash Contrib.	(e) Value of In-Kind Contrib.	(f) Cash Contrib. to F.S.	
<b>Direct Costs</b>							
Salaries/Labor	\$1,080.00		\$0.00	\$0.00			\$1,080.00
Travel	\$0.00						\$0.00
Vehicles			\$0.00	\$0.00			\$0.00
Sup/Adv/Copies			\$0.00	\$0.00			\$0.00
Contract			\$0.00			\$3,250.00	\$3,250.00
Miscellaneous							\$0.00
Equip/Materials						\$3,500.00	\$3,500.00
Subtotal	\$1,080.00		\$0.00	\$0.00	\$0.00	\$6,750.00	\$7,830.00
Indirect Costs*	\$216.00		**				\$216.00
<b>Total</b>	<b>\$1,296.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$6,750.00</b>	<b>\$8,046.00</b>

(j) Net Total Project Value:	\$8,046.00
------------------------------	------------

**Matching Costs Determination (see budget worksheet)**

Total Forest Service Share =	(m)
$(a+b+c) \div (j) = (m)$	<u>16.11%</u>
Total DPA	(n)
$[(d+e+f)] \div (j) = (n)$	<u>83.89%</u>
Total = $(m+n) = (o)$	<u>100%</u>
(should equal 100%)	

**Costs**

Cooperator  
materials: \$3,500 trees  
contractual: \$1,500 planting + \$1,750 log haul

Forest Service  
personnel: \$1,080 project COR

Forest Service Job Codes: NFRW03

NFS Agreement No.	05-CS-11060300-018
Cooperator Agreement No.	
	8/12/05

## Project Details

### Riparian Plantings along Yellowjacket Creek

In 2004, the USFS enhanced the Yellowjacket Creek floodplain habitat with the placement of large woody debris (LWD or LOD) in and around the floodplain. Currently, we propose riparian plantings along Yellowjacket Creek in those areas immediately adjacent to the woody debris structures that were completed in 2004 or the access routes to the structures. If any funds or trees are unused, they would be applied to the Cispus River enhancement sites that were completed in 1998 starting with Site "B". This area of the Cispus River Basin is one of the few in the upper Cowlitz Basin where all three species of reintroduced anadromous fish are spawning successfully. The cost for this program is \$5,000.

### Large Woody Debris Transport

The USFS has been enhancing riverine habitats throughout the Cispus River watershed for the better part of the last decade. The primary technique has been the careful placement of Large Organic Debris (LOD) into debris jams or smaller individual placements throughout the floodplain. The work is consistent with Bonneville Power Administration's (BPA's) anadromous fish reintroduction program for the upper Cowlitz Basin. Thus, BPA and Lewis County Public Utility District (LCPUD) have agreed with the Washington Department of Fish & Wildlife's (WDFW) Habitat Division to support the United States Forest Service's (USFS's) efforts by funding the transport of LOD to the upper Cispus River Basin. The cost for this program is up to \$1,750. The funds would be used for actual transport costs and billed directly to LCPUD. No monies would be used for administrative or similar types of costs.

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: James J. Hoecker, Chairman;  
Vicky A. Bailey, William L. Massey,  
Linda Breathitt, and Curt Hebert, Jr.

Public Utility District No. 1 ) Project No. 2833-063  
of Lewis County, Washington )

ORDER DENYING REHEARING

(Issued February 17, 1998)

The Public Utility District No. 1 of Lewis County, Washington (District), has filed a timely request for rehearing of the Commission's September 25, 1997 order denying the District's application for an amendment of its license to delete certain lands within the boundary of the District's 70-megawatt Cowlitz Falls Project No. 2833, located on the Cowlitz River in Lewis County, Washington. 1/ We deny rehearing.

BACKGROUND

The District seeks to delete from within the project boundary (and from Commission jurisdiction) nine parcels of land along the project reservoir shoreline (buffer zone land) comprising 128 acres (of a total 900 acres of buffer zone lands) for which it has not yet obtained necessary rights, as its project license requires. The District's application was prompted by the difficulties it has encountered in seeking to negotiate for the purchase of fee title, or even perpetual easements, in the 128 acres. The District has initiated condemnation proceedings in Superior Court of Lewis County, Washington, pursuant to Section 21 of the Federal Power Act 2/ to

1/ 80 FERC ¶ 61,350.

2/ Section 21 of the FPA, 16 U.S.C. § 814, provides in pertinent part:

When any licensee cannot acquire by contract or pledges an unimproved dam site or the right to use or damage the lands or property of others necessary to the construction, maintenance, or operation of any dam, reservoir, diversion structure, or the works appurtenant or accessory thereto, in conjunction with an improvement which in the judgement of the Commission is desirable

(continued...)

Project No. 2833-063

-2-

acquire the needed rights in the 128 acres, 3/ but expresses concern that it may not prevail.

The District asks that we reverse our prior order and approve the deletion of the 128 acres from the project buffer zone. It argues that the environmental values the Commission seeks to protect by means of the buffer zone are, in the area of the nine land parcels in question, under no foreseeable threat, and adequately protected by various federal, state, and local laws and policies. However, the District's arguments do not distinguish its project from many other major licensed projects, and provide no persuasive reason for departing from the Commission's longstanding and fundamental policy (discussed in our prior order) with respect to lands necessary for project purposes. We therefore deny the District's request. 4/

The District asks, in the alternative, that we issue "an express declaration" that the 128 acres are needed for licensed project purposes and are therefore subject to the the District's exercise of federal eminent domain under FPA Section 21. We so declare, for the reasons explained in our September 25, 1997

2/ (...continued)

and justified in the public interest for the purpose of improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, it may acquire the same by exercise of the right of eminent domain in the district court of the United States for the district in which such land or other property may be located, or in the State courts. The practice and procedure in any action or proceeding for that purpose in the district court of the United States shall conform as nearly as may be with the practice and procedure in similar action or proceeding in the courts of the State where the property is situated.

3/ The District does not claim that the cost of acquiring perpetual easements through eminent domain will be unreasonable or a financial burden.

4/ The District asks us to approve the terms of a draft easement submitted with its rehearing request. The draft fails to provide that the grantor's exercise of reserved rights in the buffer zone lands may not conflict or be inconsistent with the conditions of the District's license, including the buffer zone management plan and license Article 45, which both govern land use within the project. The Commission staff is available to consult with the District in developing acceptable easement language.



order. We also refer the District to Chapman v. Public Utility District No. 1 of Douglas County, Washington, 367 F.2d 163 (9th Cir. 1966), for a useful discussion of the exercise of federal eminent domain under FPA Section 21.

The Commission orders:

The request for rehearing filed by Public Utility District No. 1 of Lewis County, Washington on October 27, 1997, is denied.

By the Commission.

( S E A L )

*David P. Boergers*  
David P. Boergers,  
Acting Secretary.

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C. 20426

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE: \$300

FEB 24 1998

WASHINGTON, D.C.

*David Mudd*

P-2833  
101827  
DIRECTOR  
WASHINGTON DEPT. OF FISH & WILDLIFE  
600 CAPITOL WAY NORTH  
OLYMPIA, WA 98504-1091



98504-1091-1031

WASHINGTON, D.C.

75 FERC ¶ 61,431  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1 ) Project No. 2833-044  
of Lewis County )

ORDER AMENDING BUFFER ZONE MANAGEMENT PLAN  
( Issued May 2, 1996 )

On September 29, 1995, Public Utility District No. 1 of Lewis County (PUD), licensee for the Cowlitz Falls Project, FERC No. 2833, filed a letter describing its problems acquiring in fee the lands needed for the project buffer zone. The licensee proposed that, instead of acquiring in fee those parcels, it would acquire an easement in perpetuity for the lands, as allowed by article 5 of its license. 1/ The September filing also included a draft easement agreement. This would require an amendment to the buffer zone management plan which specifically stated that the lands would be acquired in fee. The Cowlitz Falls Project is located on Cowlitz River in Lewis County, Washington.

BACKGROUND

The Cowlitz Falls Project was licensed on June 30, 1986. 2/ Article 43 of the license required the licensee to file a detailed management plan for the use of project buffer zone lands (plan). The licensee filed its plan on May 4, 1988. It was approved in an order issued April 3, 1989. 3/ The licensee stated in the plan that it would acquire in fee all the lands within the buffer zone.

The licensee's September 29 filing states that it has been unable to acquire 136 acres out of 900 acres in the uppermost reach of the impoundment. Nearly all of the 136 acres are in agricultural use. The licensee met with the agricultural property owners to determine if they would accept a perpetual easement in lieu of fee purchase. The landowners were unanimous in wanting to limit public access and in retaining all rights not required by the licensee in its operation and maintenance of the

1/ Article 5 of the license requires the licensee to acquire in fee or the right to use in perpetuity all lands necessary for the construction, operation, or maintenance of the project. During licensing, the Commission staff determined that a buffer zone was needed to control shoreline development.

2/ 35 FERC ¶ 61,431.

3/ 47 FERC ¶ 62,001.

Project No. 2833-044

-2-

project. As a result, the licensee is requesting approval to acquire the lands through an easement rather than in fee.

PUBLIC NOTICE AND CONSULTATION

The application was public noticed on November 28, 1995 with comments due by January 12, 1996. Two comments were received. One landowner commented that he preferred the lands not be included in the buffer zone management plan. He further stated the easement terms are not acceptable and requested the easement terms not be approved by the Commission staff.

In a letter dated April 11, 1996, the Washington Department of Fish and Wildlife commented that the proposed amendment would have no impact on the wildlife mitigation plan and they had no further concerns.

DISCUSSION

The plan classified the buffer zone into several land classifications. These classifications include recreation, fish and wildlife mitigation, and project operation and maintenance. As discussed in the Final Environmental Impact Statement (FEIS) prepared for the license application, the buffer zone is also intended to limit uncontrolled or unapproved access to the proposed reservoir, and would therefore tend to dampen adjacent commercial and residential land development pressure. 4/

The licensee has not been able to acquire in fee 136 of 900 acres of the buffer zone. Most of this land is agricultural. Under the licensee's proposed easement, the land would remain in agricultural use which would not interfere with the purposes of the buffer zone. Recreational use of the property would be limited, but the Cowlitz Falls project contains other lands sufficient to meet recreational needs. Recreational activities are located predominantly in the lower section of the reservoir. Recreational activity in the upper section of the reservoir is primarily fishing, mostly from boats, but it includes limited shoreline fishing.

The draft easement contains provisions for ensuring that the purpose of the buffer zone is not compromised. It also includes provisions to ensure that project operation is not adversely impacted. While we are not approving the easement agreement, we are requiring the licensee, in consultation with the landowners, to prepare a final easement agreement. The easement agreement should specifically ensure that the land in the buffer zone is not used in a manner incompatible with project purposes, that

4/ FEIS issued April 1983 at page 4-4. This document is in the Commission files for this project.

recreational and scenic values are protected, and that all terms and conditions of the license are observed.

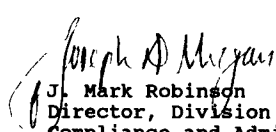
#### CONCLUSION

Acquiring the lands through an easement would meet the requirements of the buffer zone. The licensee should prepare a final easement agreement in consultation with the affected landowners.

#### The Director orders:

(A) The Buffer Zone Management Plan is amended to permit the licensee to acquire the lands in the buffer zone, identified in its September 29, 1995 filing, through an easement agreement rather than in fee. The licensee shall prepare a final easement agreement in consultation with the affected landowners and should finalize the acquisition of the lands within 6 months of the date of this order.

(B) This order constitutes final Commission action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

  
J. Mark Robinson  
Director, Division of Project  
Compliance and Administration

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C. 20426

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE: \$300

RECEIVED

MAY 06 1996

WDFW HABITAT MGMT

101827  
P-2833  
MS. BRETT DEMOND  
WASHINGTON DEPT. OF FISH & WILDLIFE  
600 CAPITOL WAY NORTH  
OLYMPIA, WA 98501-1091

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

2

Public Utility District No. 1  
of Lewis CountyProject No. 2833-041  
Washington

## ORDER APPROVING NONPROJECT USE OF PROJECT LANDS

(Issued August 14, 1995)

On June 19, 1995, Public Utility District No. 1 of Lewis County, Washington, (licensee) requested Commission approval to grant an easement for access to project lands to Bonneville Power Administration (BPA) for the purpose of installing, operating, and maintaining downstream fish passage facilities.

BPA has funded an anadromous fish restoration program for the Cowlitz River Basin. This effort to restore anadromous salmonids in the upper Cowlitz River responds to the Northwest Power Planning Council's Fish and Wildlife Program. Installation of downstream fish collection facilities at the Cowlitz Falls Project is one component of the restoration program. The facilities will include flow baffles, ramp fish screens, bypass flumes, dewatering and pumpback systems, auxiliary water supply system, fish separator, sampling building, raceways and tanks, and truck loading structures.

Paragraph D of the Order Issuing License dated June 30, 1986, approved the Cowlitz Falls Project Fish and Wildlife Mitigation Plan filed March 10, 1986. One of the major fishery components of the plan is a provision that the project be designated to allow for future construction of downstream migrant fish collection facilities at the project. Licensee was given approval by Order dated October 19, 1993, to modify project structures to accommodate downstream fish collection facilities.

Granting an easement to BPA for installing, operating and maintaining downstream fish collection facilities would benefit the restoration of anadromous salmon and steelhead to the upper Cowlitz River basin. The state and Federal resource agencies that comprise the Fish Facility Technical Committee support BPA's installation of the fish collection facilities. In addition, granting the easement to BPA is consistent with article 16 of the license. Article 16 provides that, if the United States should desire to construct, at its own expense, fish and wildlife enhancement facilities at the project, the licensee shall permit the United States or its designated agency to use free of cost, such project lands and properties as may be reasonably necessary to construct and operate such facilities. The licensee's request should be approved.

The Director orders:

(A) The licensee's June 19, 1995 request to grant Bonneville Power Administration an easement to construct, operate and maintain downstream fish collection facilities at the Cowlitz Falls Project, is approved.

(B) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

*J. Mark Robinson*  
J. Mark Robinson  
Director, Division of Project  
Compliance and Administration

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSIONPublic Utilities District No. 1  
of Lewis CountyProject No. 2833-036  
WashingtonORDER APPROVING AMENDMENT TO PROJECT'S  
FISH AND WILDLIFE MANAGEMENT AGREEMENT

(Issued May 2, 1994)

On February 7, 1994, the Public Utilities District No. 1 of Lewis County (District) filed an application for Commission approval of an amendment to the project's Fish and Wildlife Agreement.<sup>1</sup> The District, in agreement with the Washington Department of Wildlife (Wildlife), would like to amend certain sections of the Agreement dealing with the Trout Stocking Program.

Specifically, the Agreement requires the District to stock two diked subimpoundments with warm water fish (largemouth bass and black crappie). Concerns have arisen about the suitability of the water depth and water quality in the subimpoundments to support these fish during reservoir drawdown. Although Wildlife has searched for waters that could support a largemouth bass and black crappie fishery, their attempts have been unsuccessful.

The District proposes to annually stock 500 rainbow trout throughout Lewis County at locations agreed upon by the District and Wildlife in lieu of stocking the subimpoundments with largemouth bass and black crappie. In addition, the District will fund, coordinate, and administer an annual children's fishing derby at the location of the off-site trout release. Therefore, the District proposes to amend the Agreement in the following manner:

- (1) Change the heading of Section 2, Fish Stocking Element #2 (page 13) from "Trout Stocking Program" to "Trout Stocking Program (On-Site)."
- (2) Delete Section 2, Fish Stocking element #3 (page 13) entitled "Subimpoundments" in its entirety.
- (3) Replace Section 2, Fish Stocking element #3 (page 13) with:

"3. Trout Stocking Program (On-Site). The District shall annually stock 500 rainbow trout [400 catchable size (8" -12"); 100 jumbo size (larger than 12")]. Location of this annual

<sup>1</sup> The Cowlitz Falls Project Fish and Wildlife Management Agreement was made a part of the license under ordering paragraph (D) of the license (35 FERC ¶ 61,431).

-2-

stocking can be rotated throughout Lewis County at suitable locations mutually agreed upon by Wildlife and the District. The District shall procure the trout pursuant to the guidelines and requirements of this Mitigation Plan.

The District shall fund, coordinate, and administer an annual children's fishing derby at the location of the off-site trout release. The District shall release the fish immediately prior to the children's fishing derby. In 1994, the District shall provide one hundred dollars (\$100) in prizes/awards for the derby. The amount the District shall provide for prizes/awards shall increase by 5% each year thereafter.

The District may involve a civic organization to assist in administering the fishing derby. The District shall coordinate the timing and other pertinent details of the fish stocking and derby with Wildlife. Wildlife may assist the derby as funding and personnel levels allow."

All other sections of the Agreement will remain unchanged and in effect.

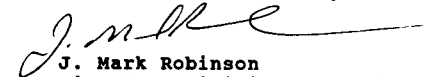
Notice of the application has been published. No protests or motions to intervene were filed in this proceeding, and no agency objected to the issuance of this amendment. Comments received from interested agencies and individuals have been fully considered in determining whether to issue this amendment.

Staff finds the requested amendment to the Agreement to be reasonable and therefore, it will be approved herein.

The Director orders:

(A) The amendment to the Cowlitz Falls Project Fish and Wildlife Management Agreement as outlined in this order is approved.

(B) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

  
J. Mark Robinson  
Director, Division of Project  
Compliance and Administration

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1  
of Lewis County, Washington

Project No. 2833-033  
Washington

ORDER APPROVING DESIGN MODIFICATIONS FOR  
DEVELOPING DOWNSTREAM FISH COLLECTION FACILITIES

( Issued October 19, 1993 )

On September 30, 1993, Public Utility District No. 1 of Lewis County, Washington, (licensee) filed a plan for modifications to project structures and operation for the purpose of developing and testing the best design for downstream fish collection facilities. This plan was filed under paragraph D of the Order Issuing License dated June 30, 1986. Paragraph D approved the Cowlitz Falls Project Fish and Wildlife Mitigation Plan filed March 10, 1986. One of the major fishery components of the plan is a provision that the project be designed to allow for future construction of downstream migrant fish collection facilities at the project.

Background

The Cowlitz Falls Project dam will be the third and upper most dam on the Cowlitz River to block anadromous fish migration. Since the project was licensed, the Bonneville Power Administration has funded an anadromous fish restoration program for the Cowlitz River Basin. This effort to restore anadromous salmonids in the upper Cowlitz River responds to the Northwest Power Planning Council's Fish and Wildlife Program. Installation of the downstream fish collection facilities at Cowlitz Falls Project is one component of the restoration program.

Upstream and downstream fish collection facilities will be installed and operated to restore anadromous fish in the upper Cowlitz River. Upstream migrating adult steelhead, coho and spring chinook salmon will be collected at the Cowlitz River Salmon Hatchery fish ladder downstream of Mayfield Dam and trucked upstream around Mayfield, Mossyrock and Cowlitz Falls Project dams. Downstream migrants will be collected at the Cowlitz Falls Project dam and trucked downstream around the dams and released to the Cowlitz River.

A Fish Facility Technical Committee (FFTC) is developing operational criteria and designs for all upstream and downstream fish collection facilities. The FFTC is comprised of engineers and fishery biologists from the licensee, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Washington Departments of Fisheries and Wildlife and other consultants. The FFTC recommended to the licensee that a surface collector concept

including a spillway baffle system be used to collect downstream migrants at the Cowlitz Falls Project.

Licensee's Proposal

Based on the recommendations of the FFTC, the licensee proposes to make the following four modifications to project structures or operation to benefit collection of downstream migrating salmon smolts at the Cowlitz Falls Project.

• Install Flow Restricting Baffles

These baffles will be installed in the trash rack slots in front of Spillways Nos. 2 and 3. Their purpose is to provide a region of higher velocity in the surface water column in order to attract downstream migrating fish away from the lower level turbine intakes and into a fish collection system.

• Lower Cofferdam and Retaining Wall by 15 Feet

Lowering of these structures will create more uniform flow conditions upstream of the baffle attraction facility to effectively increase the baffle system's influence on forebay flow patterns.

• Install Vortex Suppressor

An 8-foot vertical panel submerged upstream of Spillway No. 4 will suppress a vortex that hydraulic modeling identified directly above the low level sluice gates. Eliminating the vortex will prevent downstream migrants from being pulled or drawn down towards operating low level sluice gates.

• Operate Sluice Gates Instead of Spillway Flap Gates

Operating the surface flap gates at Spillway Nos. 1 and 4 to pass trash and for flow control would create currents that would compete with the baffle attraction facility. Operating the low level sluice gates to regulate flow and eliminate the use of the surface flap gates for debris management during major fish migrations would allow more effective operation of the baffle system.

The effects of changing these project structures and operation on the hydraulics of the fish collection facility will be evaluated during the first year of project operation in 1994. Any necessary modifications to the facility that the FFTC recommends to the licensee will be based on the results of the hydraulic evaluation and the fish guidance efficiency of the facility.

### Discussion

Before construction of Mossyrock Dam in 1968, the Cowlitz River and tributaries supported spawning and rearing steelhead trout, chinook salmon and coho salmon. Since completion of Mossyrock Dam and the Cowlitz Salmon Hatchery, all anadromous fish have been intercepted at the hatchery downstream of Mayfield Dam, and adults have been held for hatchery spawning.

The Washington Department of Fisheries had been considering restoration of anadromous salmon to the upper Cowlitz River for some time. Past efforts to establish anadromous fish above Mossyrock Dam failed because downstream migrating smolts either took up residence in Riffe Lake (Mossyrock Dam Reservoir) or died. With construction of the Cowlitz Falls Project dam and associated downstream fish collection facilities, salmon smolts could be collected and transported downstream. This would avoid the need for passage through Riffe and Mayfield Lakes and could result in the successful restoration of anadromous salmon and steelhead to the upper Cowlitz River basin.

### Conclusion

While not structurally substantial, it appears that some features of the fish collection facilities, particularly the flow baffles and vortex suppressor, could interfere with the proper operation of the spillways and sluiceway. Therefore, the licensee should file for review and comment, prior to implementing these proposed modifications, plans and specifications with the Commission and the Commission's Portland Regional Office (PRO) for these modifications. The filing must address the exact methods of placement and removal of the baffles and vortex suppressor. If the baffles and vortex suppressor are designed to fail at a particular flow if removal is not possible, the supporting calculations should be included in the filing.

Since lowering the cofferdam and adjacent retaining wall will have no apparent effect on project operation or safety, this work may begin at the licensee's convenience.

The licensee's proposed modifications to project structures and operation would benefit the restoration of anadromous salmon and steelhead to the upper Cowlitz River basin. The state and federal resource agencies that comprise the FFTC support these changes to the project design by recommending them to the licensee. These modifications to the project design and operation are consistent with Ordering Paragraph D of the license for the Cowlitz Falls Project, and should be approved, with the requirement for the licensee to file the plans and specifications for the flow baffles and vortex suppressor with the Commission.

### The Director orders:

(A) The Plan to Modify Project Design and Operation to Develop and Test Downstream Fish Collection Facilities filed September 30, 1993, is approved.

(B) Sixty days prior to implementing the flow restricting baffles and the vortex suppressor, the licensee shall file two copies with the Commission and one copy with the Commission's Portland Regional Office, of the final plans and specifications for the proposed baffles and suppressor. The filing shall address the exact methods of placement and removal of the baffles and vortex suppressor. In addition, if the baffles and suppressor are designed to fail at a particular flow if removal is not possible, the licensee shall include in the filing, the supporting calculations.

(C) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

*Joseph A. Nuyin*  
J. Mark Robinson  
Director, Division of Project  
Compliance and Administration

**COWLITZ FALLS PROJECT**

**FERC #2833**

**FISH AND WILDLIFE  
MANAGEMENT AGREEMENT**

**AMENDMENT NO. 2**

**June 18, 1997**

**Public Utility District No. 1 of Lewis County**

**and**

**Washington Department of Fish and Wildlife**



## INTRODUCTION

The Cowlitz Falls Project Fish and Wildlife Management Agreement (referred to as the "1986 Agreement") was signed on February 25, 1986, by persons representing the Washington Department of Game (now WDFW) and Public Utility District No. 1 of Lewis County (PUD). The Agreement formalized fish and wildlife mitigation plans for the Cowlitz Falls Project (Project), and identified improvements and management techniques required for fish and wildlife mitigation.

On the basis of the 1986 Agreement, Beak Consultants, Incorporated (Beak), acting on behalf of the PUD, developed "The Fish and Wildlife Implementation Plan" (Plan). This Plan provided the detail necessary to achieve the goals described in the 1986 Agreement. To assist in implementation, the Cowlitz Falls Fish and Wildlife Committee (FWC) was formed to provide guidance and oversight. The FWC consisted of representatives from the WDFW, PUD, Beak and Bechtel.

The following amendments document the changes and additions to the Mitigation Plan attachment to the 1986 Agreement by the mutual consent of WDFW and the PUD, as allowed by paragraph 24 of the 1986 Agreement, to be effective upon approval by the Federal Energy Regulatory Commission (FERC).

## MITIGATION PLAN

### SECTION 1

## WILDLIFE PLAN

Difficulty in acquiring lands designated as Wildlife Units #7 and #8 in the 1986 Agreement encouraged the PUD to ask WDFW for permission to substitute other suitable lands under paragraph 15 of the 1986 Agreement. The PUD purchased a 155-acre parcel, and dedicated a portion, referred to "Kiona Wildlife Management Unit" (KWMU) for a replacement. This resulted in a surplus of acreage (See Table 1). The KWMU is primarily deciduous forests and old fields that are being modified for improved habitat. The original estimates of acreage for Units #7 and #8 were 20 acres and 17 acres, respectively. The substituted KWMU is 80 acres, and includes a deciduous wetland slough. A separate plan was prepared for the KWMU, and agreed to by the FWC in July 1993.

The 75 remaining acres of the above referenced 155-acre parcel is owned by the PUD, but is not included in Project lands. Management of this parcel is purely voluntary and is not part of the ongoing mitigation program.

Because of mixed results regarding plant survival, the PUD, with concurrence from the WDFW, has agreed to manage the KWMU as a mixed forest area (coniferous and deciduous). A wetland slough will remain deciduous, but the shoreline/riparian area (up to 150 feet measured horizontally from the bank of the reservoir) will be managed for coniferous/mixed species stocks. Currently this area is predominately agricultural with a minimal riparian zone. The mixed plantings are intended to provide a riparian corridor with future benefits to both fish and wildlife. The pasturelands will be mowed and fertilized to promote forage for deer and elk.

#### Lands (Coniferous Managed Forest)

The 1986 Agreement was developed with the expectation that the Project would be licensed at a reservoir elevation of 866 msl. FERC licensed the Project at 862 msl. Section 4 of the 1986 Agreement specifies less mitigation at the 862 msl reservoir level, thus, Wildlife Units #1 and #4 were not required. They were purchased, however, in preparation for possible operation at the 866 msl level in the future.

#### Total Lands

Table 1. Project Wildlife Mitigation Lands at reservoir elevation 862 msl.

	Acres Required 1986 Agreement	Acres Acquired 1992 Survey
WILDLIFE LANDS (elevation 862')		
Unit # 2	53	59.4
Unit # 3	35	22.8
Unit # 5	132	113.8
Unit # 6	71	103.7
KWMU	37	80.6
Totals	328	380.3

### Buffer Zone Lands

The owners of some nine properties in the upper reservoir area, most of which were classified "Agricultural" in the Buffer Zone management Plan, refused to sell the PUD fee simple title to their lands. In an effort to reach agreement with these landowners, the PUD explored the possibility of acquiring easements that will allow the limited activities that may be necessary for the maintenance and operation of the Project. WDFW has given its approval to this alternate method of acquisition, and FERC has approved an amendment to the Buffer Zone Management Plan to permit easements in lieu of fee simple purchase. The PUD has less ability to control buffer zone activities on agricultural lands under easement. It is understood that land uses under easements will be restricted primarily by prevailing land-use laws. To the extent reasonably possible, the PUD will cooperate with WDFW in assessing the wildlife habitat available on these lands.

### Management Techniques for Coniferous Forests

Canopy Thinning - It was agreed by the FWC that the 30% canopy closure stipulated in the 1986 Agreement was intended to be 30% canopy opening. Under the Coniferous Forest Section, the goal of producing a high habitat suitability index for black tailed deer is identified.

Shoreline/Riparian Establishment - The FWC agreed that selectively clear-cutting of trees to establish shoreline/riparian zones in the 1986 Agreement is not necessary.

Snag Management - Management should apply to managed conifer areas only. Set aside areas should be allowed to develop naturally.

Planting Shrubs and Trees - Future planting will focus primarily on a mixture of coniferous trees and shrubs, with deciduous plantings as determined by WDFW and PUD following annual walk-through.

### Transmission Line

In addition to Beak's enhancements identified for transmission line right-of-way mitigation set forth in the Plan, a total of 24 apple (transparent), crabapple and blue elderberry have been planted on the top portion of the hill above Glenoma.

### Diked Subimpoundments

The subimpoundments as constructed have been approved by the WDFW. Amendment No. 1 to the 1986 Agreement provided an annual "Kids' Fishing Derby" to be substituted for the originally planned warm water fishery (FERC approval, May 2, 1994). The "Kids' Fishing Derby" may be held on or off Project lands.

### Undiked Shallows

The FWC agreed to adopt a proposal put forth by the WDFW representative to create two additional islands by dredging through areas near the point of two peninsula. One island was created at the western tip of Wildlife Unit #3 and the other on a peninsula in Section 32.

### Reservoir Shoreline Management

Section 32 and the KWMU shoreline area plantings were designed and planted by Beak as agreed to by the FWC. No cattle watering access points were necessary in the KWMU.

Siler Creek was evaluated and determined to have sufficient riparian vegetation. By agreement with WDFW, the eastern-most parcel of this mitigation area was not acquired due to opposition by the landowner, and because its deletion did not break up the contiguous buffer zone. The area was not fenced and the plants purchased for this area were incorporated into a riparian planting on the southwest shore of the Cowlitz River in Unit #4.

### Remaining Forested Reservoir Shoreline

The forested buffer zone outside Wildlife Units will be allowed to grow and mature naturally, with selective tree cutting primarily for safety reasons. Logging will be limited by state regulations for shoreline areas, and by conservative timberland management practices which meet thermal cover objectives described in the HEP Study Plan.

### Wildlife Mitigation Monitoring and Reporting

Site conditions will be monitored by annual walk through and evaluated by Habitat Evaluation Procedure (HEP) in 1997, and again in approximately 2013 and 2029. As a consequence, the five year evaluations as described in the 1986 Agreement are deleted.

## MITIGATION PLAN

### SECTION 2

#### FISHERIES PLAN

The Cowlitz Falls Project was designed for the possible installation of downstream migrant fish collection facilities at some future date. When Bonneville and the PUD signed a Power Purchase Agreement in 1991, and BPA later became the lead agency for construction and operation of such a facility, it enlisted the participation of state and federal agencies, and with their cooperation, plans were developed. The resulting anadromous juvenile fish collection facility is expected to be completed by Bonneville in December, 1996. Reintroduction plants were initiated in October 1994.

#### Stream Habitat Improvements

The FWC determined that the root wads destined for Siler Creek would provide more benefit in Kiona Creek (due to its lack of wood), and were cabled in place near the mouth of the stream.

## MITIGATION PLAN

### SECTION 3

#### THREATENED OR ENDANGERED SPECIES MITIGATION AND ENHANCEMENT PLAN

#### FERC Order Supplementing Bald Eagle Protection Plan (June 7, 1991)

Considerable effort has gone into bald eagle surveys as prescribed by the License. FERC Article 40 of the Cowlitz Falls Hydroelectric License No. 2833 required an eagle monitoring program during the three-year construction period, and for the first three years following commercial operation of the Project. Information from these surveys has indicated that a substantial increase in use by bald eagles has occurred within and adjacent to Project lands. A new bald eagle nest was discovered in 1997.

There are adequate trees in the lower reservoir to supply bald eagles with perch trees, and although the average tree size is small, there are large trees available that could be used for nesting. A known nest tree was protected by riprap during reservoir construction and is now surrounded by water. It is still available, although eagles have not recently used it.

Because of the availability of nest/perch trees, the USF&W Service, the WDFW and the PUD have agreed that artificial perches are not required at this time. If any clearing of large trees bordering the reservoir occurs, the availability of nest and perch trees will be reduced and artificial perches may be required. Topping of selected natural trees will be done when the agencies agree that it is necessary to make such trees more attractive to bald eagles.

The Cispus River Bald Eagle Management Plan (Bechtel; January 1992) recommended up to five perches/nest sites in the lower reservoir. In addition, because of the recent bald eagle monitoring work, the USF&W Service, the WDFW and the PUD agree to the following:

- Create four or five perch/nest sites, by topping if necessary, in the KWMU and Siler Creek areas of the upper reservoir.
- Plant up to 50 cottonwood trees near the reservoir annually for five years to provide future eagle perch/nest sites.

APPROVED BY:

WASHINGTON DEPARTMENT OF FISH  
AND WILDLIFE

By *Dora M. Austin*

Date *8/20/97*

PUBLIC UTILITY DISTRICT NO. 1 OF  
LEWIS COUNTY

By *Dan H. Kalish*

Date *6-18-97*

COWLITZ FALLS PROJECT FISH AND WILDLIFE MANAGEMENT  
AGREEMENT

AMENDMENT NO. 1

WHEREAS, Lewis County Public Utility District No. 1, hereinafter referred to as the "District", has a Federal Energy Regulatory Commission (FERC) license (FERC No. 2833) to construct and operate the Cowlitz Falls Project on the Cowlitz River in Lewis County, Washington; and,

WHEREAS, the District and the Washington Department of Wildlife, hereinafter referred to as "Wildlife", have an existing agreement titled the *Cowlitz Falls Project Fish and Wildlife Management Agreement* that was signed on February 25, 1986, and approved by FERC in Order 2833-002 issued June 30, 1986; and,

WHEREAS, the aforementioned *Management Agreement* contains a *Cowlitz Falls Project Fish and Wildlife Mitigation Plan* that, by Section 2, Fish Stocking element #3 (page 13), requires the planting of two adult and 100 fingerling largemouth bass per acre and one pair of black crappie per acre in a 30 acre and a 9 acre subimpoundment adjacent to the Cowlitz Falls reservoir; and,

WHEREAS, concerns have arisen about the suitability of the water depth and water quality in the subimpoundments to support these fish during reservoir drawdown; and

WHEREAS, Wildlife personnel have searched unsuccessfully for other suitable waters in the project vicinity where the bass and crappie could be planted and support a new fishery.

NOW, THEREFORE, the District and Wildlife (hereinafter collectively referred to as the "Parties") amend the 1986 *Cowlitz Falls Project Fish and Wildlife Mitigation Plan* in the following manner:

1. Change the heading of Section 2, Fish Stocking element #2 (page 13) from "Trout Stocking Program" to "Trout Stocking Program (On-Site)."
2. Delete Section 2, Fish Stocking element #3 (page 13) entitled "Subimpoundments" in its entirety.
3. Replace Section 2, Fish Stocking element #3 (page 13) with:

"3. Trout Stocking Program (Off-Site). The District shall annually stock 500 rainbow trout [400 catchable size (8" - 12"); 100 jumbo size (larger than 12")]. Location of this annual stocking can be rotated throughout Lewis County at suitable locations mutually

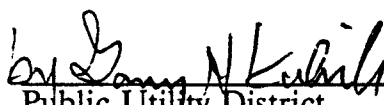
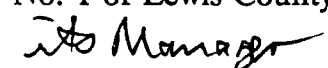
agreed upon by Wildlife and the District. The District shall procure the trout pursuant to the guidelines and requirements of this Mitigation Plan.

The District shall fund, coordinate, and administer an annual children's fishing derby at the location of the off-site trout release. The District shall release the fish immediately prior to the children's fishing derby. In 1994, the District shall provide one hundred dollars (\$100) in prizes/awards for the derby. The amount the District shall provide for prizes/awards shall increase by 5% each year thereafter.

The District may involve a civic organization to assist in administering the fishing derby. The District shall coordinate the timing and other pertinent details of the fish stocking and derby with Wildlife. Wildlife may assist the derby as funding and personnel levels allow."

All other sections of the *Management Agreement* and *Mitigation Plan* remain unchanged and in effect. This amendment shall remain in effect through the life of the *Management Agreement* unless modified by mutual written agreement of the District and Wildlife.

APPROVED,

 5/2/94  
Public Utility District      Date  
No. 1 of Lewis County  
 Manager

 12/29/93  
Washington Department      Date  
of Wildlife



C.E. *Handwritten notes:* road / Hal  
FYI 6/14/91

55 FERC 12,230

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

-2-

Public Utility District No. 1  
of Lewis County, Washington

Project No. 2833-002  
Washington

ORDER SUPPLEMENTING BALD EAGLE PROTECTION PLAN  
(Issued June 7, 1991)

On January 30, 1989, the Director, Division of Project Compliance and Administration, approved with minor modification a bald eagle protection plan for the Cowlitz Falls Project. The plan required measures to minimize the project's effects on wintering bald eagles.

This past winter, a new bald eagle nest was discovered on the Cispus River approximately one quarter mile from its confluence with the Cowlitz River. A pair of adult eagles were observed at the nest on several occasions, but no eggs were seen. The nest tree is a Douglas fir approximately 90 feet tall located in a stand of pole-sized Douglas fir. The nest tree is located in an area that will be inundated to a depth of 15 feet by the project reservoir.

Because construction and operation of the project may adversely affect the recently discovered bald eagle nest, we requested formal consultation with the U.S. Fish and Wildlife Service (FWS) on April 26, 1991. The FWS provided its biological opinion on June 5, 1991.

The FWS determined that nesting bald eagles at the project may be adversely affected by vehicular traffic on unimproved roads, Phase II reservoir clearing, inundation of the nest tree, recreational use of the reservoir and project lands, and operation of the reservoir for flood control. The FWS's biological opinion is that construction and operation of the project is not likely to jeopardize the continued existence of the bald eagle.

To minimize the "harm" and "harassment" of nesting bald eagles incidental to the operation and construction of the project (incidental take), the FWS provided the following measures:

- (1) Prohibit any project-related activities within 400 meters of the eagle nest from January 1 - August 15 from 1992 to Project Completion.
- (2) Maintain all trees in the 400-meter area surrounding the eagle nest until just prior to reservoir filling. The exception is that the wildlife mitigation area can be cleared in 1991.

- (3) The nest tree and 8-10 perch trees near the nest are to be retained after inundation. Perch trees are to be identified by monitoring if bald eagles are present prior to inundation. Otherwise, the largest trees in the immediate vicinity of the nest, as identified by Washington Department of Wildlife and FWS biologists, will be left standing.
- (4) The road which presently goes in to the nest tree will be blocked with berms and ditches at designated locations to prevent all vehicle traffic.
- (5) All trees approved for clearing within 800 meters of the nest, but more than 400 meters from the nest, will be removed during 1991 or outside of the January 1 - August 15 breeding period, unless the clearing is not visible from the nest.
- (6) After inundation, a 100-meter buffer zone will be established around the nest with buoys. If monitoring indicates the nest is active, all activities shall be prohibited in this zone during January 1 - August 15. Within a 400-meter radius zone around the nest, no anchoring shall be permitted and motorized boats shall be prohibited. If it is determined that the nest is inactive, normal boat operation and other recreational activities may be permitted after May 1.
- (7) A diversion dike or berm will be constructed to reduce current velocities around the nest tree.
- (8) The base of the tree will be armored or riprapped with rock to minimize erosion at the base.
- (9) That portion of the trunk of the nest tree within normal operating fluctuations of the pool will be treated with a wood preservative to reduce wood deterioration.
- (10) A monitoring plan should be implemented for bald eagles present during the breeding season. This monitoring plan should logically be an extension of the wintering bald eagle monitoring program. Monitoring should be sufficiently frequent that it will:
  - (a) document use of the nesting territory by bald eagles;
  - (b) identify perch and roost trees, and principal foraging areas; and

- (c) monitor project construction and operation activities, including recreation, and identify conflicts with nesting bald eagles.

The results will be reported annually to the FWS and will be subject to review. Monitoring shall be carried out through the third year of operations.

The FWS also recommended the following conservation measures:

- (1) A plan to develop nest trees and nesting habitat for future use by bald eagles on the Cowlitz Falls Project should be developed. If monitoring indicates that bald eagles are establishing a nesting territory elsewhere on the project, the nesting territory should provide the basis for the plan.
- (2) Prior to inundation, and based on monitoring, an alternate nesting site for bald eagles should be created by selective pruning and addition of a nesting platform to an existing tree.
- (3) Should monitoring indicate that nesting habitat maintained in the reservoir is being used by wintering bald eagles, it should be maintained regardless of whether it is used by nesting bald eagles.

The measures recommended by the FWS to minimize incidental take are appropriate for protecting the recently discovered bald eagle nest at the project and will be required by this order. Their implementation should not delay or conflict with the construction and operation of the project. By letter dated June 7, 1991, the licensee agreed to incorporate the incidental take measures into the bald eagle protection plan.

The licensee will not be required to implement the conservation measures. Conservation measure one would require the licensee to develop a plan to create nest trees and nesting habitat for future use by bald eagles. Conservation measure two also would require the licensee to create an alternative nesting site. The development of plans for creating nest trees and nesting habitat is premature in light of the limited use of the area for nesting. The measures required to minimize incidental take will provide ample protection for nesting bald eagles. In addition, standard provisions of the license provide the means for the Commission to require additional conservation measures if they become necessary during the license term. Conservation measure three is concerned with providing habitat for bald eagles

wintering in the project area. The bald eagle protection plan approved on January 30, 1989, already provides the necessary protection of habitat for wintering bald eagles.

The Director orders:

(A) The bald eagle management plan approved on January 30, 1989, is supplemented to include the measures to minimize the incidental take of nesting bald eagles provided with the U.S. Fish and Wildlife Service's June 5, 1991, biological opinion and listed below:


- (1) Prohibit any project-related activities within 400 meters of the eagle nest from January 1 - August 15 from 1992 to Project Completion.
- (2) Maintain all trees in the 400-meter area surrounding the eagle nest until just prior to reservoir filling. The exception is that the wildlife mitigation area can be cleared in 1991.
- (3) The nest tree and 8-10 perch trees near the nest are to be retained after inundation. Perch trees are to be identified by monitoring if bald eagles are present prior to inundation. Otherwise, the largest trees in the immediate vicinity of the nest, as identified by Washington Department of Wildlife and U.S. Fish and Wildlife Service biologists, will be left standing.
- (4) The road which presently goes in to the nest tree will be blocked with berms and ditches at designated locations to prevent all vehicle traffic.
- (5) All trees approved for clearing within 800 meters of the nest, but more than 400 meters from the nest, will be removed during 1991 or outside of the January 1 - August 15 breeding period, unless the clearing is not visible from the nest.
- (6) After inundation, a 100-meter buffer zone will be established around the nest with buoys. If monitoring indicates the nest is active, all activities shall be prohibited in this zone during January 1 - August 15. Within a 400-meter radius zone around the nest, no anchoring shall be permitted and motorized boats shall be prohibited. If it is determined that the nest is inactive, normal boat operation and other recreational activities may be permitted after May 1.

- (7) A diversion dike or berm will be constructed to reduce current velocities around the nest tree.
- (8) The base of the tree will be armored or riprapped with rock to minimize erosion at the base.
- (9) That portion of the trunk of the nest tree within normal operating fluctuations of the pool will be treated with a wood preservative to reduce wood deterioration.
- (10) A monitoring plan should be implemented for bald eagles present during the breeding season. This monitoring plan should logically be an extension of the wintering bald eagle monitoring program. Monitoring should be sufficiently frequent that it will:
  - (a) document use of the nesting territory by bald eagles;
  - (b) identify perch and roost trees, and principal foraging areas; and
  - (c) monitor project construction and operation activities, including recreation, and identify conflicts with nesting bald eagles.

The results will be reported annually to the FWS and will be subject to review. Monitoring shall be carried out through the third year of operations.

(B) The annual monitoring reports required by measure ten above shall also be filed with the Commission no later than December 1 of each year through the third year of project operation. The Commission reserves the right to require additional changes in the bald eagle protection.

(C) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. § 385.713.

  
J. Mark Robinson  
Director, Division of Project  
Compliance and Administration

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1  
of Lewis County, Washington

Project No. 2833-010  
Washington

ORDER APPROVING RESERVOIR CLEARING PLAN  
WITH MODIFICATION

(Issued February 8, 1989)

On May 6, 1988, Public Utility District No. 1 of Lewis County, Washington (licensee) filed a reservoir clearing plan, as required by article 20 of the license for the Cowlitz Falls Project. The plan principally consists of the following measures: (1) a generalized schedule for reservoir clearing; (2) a description of clearing activities including areas to be cleared, reservoir access, clearing guidelines, and disposal of merchantable timber and slash; (3) coordination with other plans, approvals, and permits; and (4) documentation of consultation with the fish and wildlife agencies.

The State of Washington Department of Wildlife (DOW) and the U.S. Fish and Wildlife Service (FWS) commented on the clearing plan in letters dated April 22, 1988, and April 26, 1988, respectively. FWS and DOW do not object to the plan's provisions but are concerned about what they consider the lack of detail in the plan. FWS recommends that the plan be revised to include specific information on the location of coves and inlets that will not be cleared to provide for fish cover and nutrients to the reservoir and specific snags and older growth trees that will be retained along the reservoir shoreline to benefit wildlife. Licensee says that these specific areas and trees will be identified following completion of the reservoir survey.

Licensee's proposed reservoir clearing plan is generally satisfactory but lacks the necessary detail about specific areas and trees that will be retained for fish and wildlife habitat. That detail can be achieved after the licensee's planned reservoir survey and additional agency consultation. The licensee, therefore, should consult with FWS and DOW to identify specific coves and inlets not to be cleared and specific snags and other trees to be retained, and shall file a supplement to the reservoir clearing plan documenting this further consultation.

Implementation of the reservoir clearing plan with the modifications described herein will provide adequate protection for fish and wildlife resources and public safety.

DC-A-16

The Director orders:

(A) The reservoir clearing plan filed on May 6, 1988, as modified by paragraph B, is approved.

(B) The licensee, no later than 12 months from the date of this order or 60 days prior to commencing reservoir clearing, whichever comes first, shall file a report documenting the results of consultation with the U.S. Fish and Wildlife Service and the State of Washington Department of Wildlife concerning the identification of specific coves and inlets not to be cleared, and specific snags and older trees to be retained along the reservoir shoreline, as well as other specific fish and wildlife areas to be protected during reservoir clearing. The Commission reserves the right to require modification to the plan approved in paragraph A herein.

(C) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order.

*J. Mark Robinson*  
J. Mark Robinson  
Director, Division of Project  
Compliance and Administration

01  
2-15-89  
Eric Anderson (Reg S)  
3/23/93

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Public Utility District No. 1  
of Lewis County, Washington

Project No. 2833-015  
Washington

ORDER APPROVING BALD EAGLE PROTECTION PLAN WITH  
MODIFICATION

(Issued January 30, 1989)

On May 6, 1988, Public Utility District No. 1 of Lewis County, Washington (licensee) filed a bald eagle protection plan, as required by article 40 of the Cowlitz Falls Project. The plan principally consists of the following measures for bald eagle protection at the project: 1) maps showing the general locations of snags and older trees to be preserved as bald eagle perches, the preliminary sites for locating artificial perches, and the location of proposed cottonwood plantings; 2) a description of the proposed artificial perches; 3) a brief description of fisheries mitigation that would result in greater food resources for bald eagles; 4) a transmission line design; 5) a program for monitoring bald eagle use of the project area during the first several years of project operation; 6) a review of the bald eagle protection plans coordination among other plans; and 7) comments of the fish and wildlife agencies.

The State of Washington Department of Wildlife (DOW) and the U.S. Fish and Wildlife Service (FWS) commented on the plan in the letters dated April 22, 1988, and April 26, 1988, respectively. DOW and FWS generally concur with provisions of the plan but offered some additional recommendations which were incorporated except as discussed below. DOW recommends that at least one season of winter surveys be completed prior to project construction to determine eagle use and distribution in the project area. FWS recommends that the bald eagle monitoring surveys extend from January 1 through April 30 instead of through March 31 as proposed by the licensee.

In response to DOW recommendation, licensee states that if the start of construction is delayed until the summer of 1989, limited preconstruction surveys will be conducted from January through March of 1989. Since relatively recent baseline data on eagle use of the area currently exist, the inclusion of one winter's preconstruction survey would be useful but not critical to the proposed monitoring program. Therefore, the licensee shall be required to include one winter's preconstruction survey only if it does not cause a delay in beginning construction of the project.

DX-A-3

-2-

Licensee responded to FWS requests to extend the surveys through April 30 by stating that the surveys would continue into April if January through March surveys and other previous data demonstrate significant eagle use in April. The licensee's proposal to use the results of its January through March surveys to determine the need to extend the survey through April is reasonable. The licensee's monitoring program shall be extended through April of any year that the last survey in March demonstrates bald eagle use of the project area.

Implementation of the plan with the modifications described herein will provide adequate protection of bald eagles in the project area.

The Director orders:

(A) The bald eagle protection plan filed on May 6, 1988, as modified by paragraph B, is approved.

(B) The licensee, by June 30, 1988, shall file with the Commission a report documenting three years of post-construction monitoring of bald eagle use of the project area. The report shall include, but not be limited to, the following: (1) the results of one January through March preconstruction survey of bald eagle use of the project unless such a survey would cause a delay in beginning construction of the project; (2) the results of 3 years of January through March postconstruction surveys of bald eagle use of the project area with the survey extended through April if the last March survey of any year demonstrates bald eagle use of the project area; (3) a map showing the final locations for the artificial perches described in the plan approved in paragraph (A) herein; (4) proposals for modifying land and water uses at the project to avoid conflicts between human activity and bald eagles during critical periods of eagle use; (5) any other necessary long-term bald eagle protection measures and monitoring requirements; and (6) comments of the State of Washington Department of Wildlife and the U.S. Fish and Wildlife Service on the report. The Commission reserves the right to require modification to the plan approved in paragraph (A) herein.

(C) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order.

J. Mark Robinson  
Director, Division of Project  
Compliance and Administration

Eric Anderson (Reg 5)  
3/23/93

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

-2-

Project No. 2833-002

Before Commissioners: Anthony G. Sousa, Acting Chairman;  
Charles G. Stalon, Charles A. Trabandt  
and C. M. Naeve.

Public Utility District No. 1                    )       Project No. 2833-002  
of Lewis County, Washington                    )

ORDER ISSUING LICENSE (MAJOR)

(Issued June 30, 1986)

Public Utility District No. 1 of Lewis County, Washington (P.U.D.), has filed an application for a license under Part I of the Federal Power Act (Act) to construct, operate, and maintain the Cowlitz Falls Project No. 2833. The project would be located on the Cowlitz River in Lewis County, Washington, immediately upstream of the City of Tacoma's licensed Project No. 2016. The Cowlitz River has been found to be a navigable waterway of the United States. <sup>1/</sup>

Public Notice and Comments

Notice of the application has been given, and comments were received from interested federal, state, and local agencies. A number of comments, protests, and motions to intervene were also received from individuals, agencies, and other entities. All intervention requests have been granted. The intervenors are: the Washington Department of Natural Resources (Natural Resources); the Washington Department of Fisheries (Fisheries); the Washington Department of Game (Game); the Washington Department of Ecology (Ecology); Lewis County, Washington (Lewis County); the City of Tacoma, Washington (Tacoma); the Cowlitz Indian Tribe (Tribe); Champion International Corporation (Champion); the Cowlitz Falls Dam Prevention Committee (Dam Committee); 12 individual residents of the project area; and the Friends of Whitewater.

Public meetings were held by Commission staff in Randle and Chehalis, Washington, and visits were made to the proposed site to identify environmental impacts and issues of concern that needed to be addressed in an Environmental Impact Statement (EIS). A draft EIS (DEIS) was prepared and circulated for comment.

<sup>1/</sup> City of Tacoma, Washington, 10 F.P.C. 432 (1951).

Upon review and consideration of those comments, the document was revised and a final EIS (FEIS) was issued. <sup>2/</sup> All of the significant impacts of the project and substantive comments on the application and the DEIS and FEIS as well as those in the interventions have been considered and, we believe, satisfactorily resolved. As discussed below, all of the agencies are now supportive of the project. The remaining objections to the project, which are from the Dam Committee and individual intervenors, <sup>3/</sup> are addressed below.

Project Description and Operation

A. Description

The proposed Cowlitz Falls Project would consist of: (1) an 800-foot-long concrete-gravity dam at river-mile 88.6, extending 140 feet above the streambed, and containing an ogee spillway overflow section with four radial gates; (2) a power intake structure integral with a non-overflow section of the dam; (3) two 18-foot-diameter steel penstocks; (4) a reservoir covering 610 acres, with a total volume of 10,200 acre-feet; (5) a powerhouse integrated with the dam and intake having a total installed capacity of 70 megawatts (MW); (6) a switchyard located about 500 feet downstream from the powerhouse; (7) a tailrace and modified channel, extending about 1 mile downstream from the powerhouse; (8) a 115-kilovolt (kv) transmission line, extending about 5.2 miles to a proposed substation at Glenoma; and (9) appurtenant facilities. A more detailed project description is given in ordering paragraph (B) below.

B. Operation

The Cowlitz Falls Project would be operated as a run-of-river plant, with turbines functioning at maximum efficiency and the

<sup>2/</sup> Final Environmental Impact Statement, Cowlitz Falls Project, FERC Project No. 2833 - Washington, Office of Electric Power Regulation, Federal Energy Regulatory Commission, April 1983.

<sup>3/</sup> On April 17, 1986, Norman and Catherine Sadler filed a motion for summary disposition and denial of the license application. Although Mr. Sadler represents the Dam Committee, the motion apparently was not filed on behalf of the Dam Committee because it was not mentioned. Also, Mr. Sadler is not an individual intervenor in this proceeding. However, because Mrs. Sadler is an intervenor on her own behalf, the motion is properly filed. No new issues were raised in the motion, and it is adequately addressed in this order.

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reservoir operated to maintain maximum head and to minimize spill. With this operational scheme, the reservoir would essentially remain at a constant elevation for the majority of the year. During the months of August through October, inflows less than 1,500 cubic feet per second (cfs) would be regulated to increase turbine efficiency if Ritte Lake, one of the reservoirs for Project No. 2016 located immediately downstream, were filling the channel below Cowlitz Falls Dam; otherwise, flow below the minimum hydraulic capacity of 1,000 cfs would be spilled. The maximum hydraulic capacity of the units at the project would be approximately 10,000 cfs. An estimated 256,000 megawatt hours (MWh) of energy would be generated annually by the project. 4/

#### Need for the Project Power and Alternatives

The P.U.D. serves the electric power needs of most of Lewis County. 5/ Currently, the P.U.D. purchases, or obtains through exchange, substantially all of its power requirements from the Bonneville Power Administration (BPA). As a preference customer, the P.U.D. has priority for power sold by BPA. The P.U.D. has a power sales contract with BPA under which BPA agrees to supply power in excess of the P.U.D.'s own resources to the extent that power is available from the BPA system, and which requires the P.U.D. to "use its best efforts either to serve its load growth using firm resources or to make available for acquisition by [BPA] resources equivalent to the load growth of the [P.U.D.]." Consistent with this, the P.U.D. plans to use project power to serve a portion of its current and future loads. Alternatively, in the future, the power could be sold to BPA to help meet regional power demand.

In 1983, the Northwest Power Planning Council (Council), established pursuant to the Pacific Northwest Electric Power Planning and Conservation Act (Conservation Act), P.L. 96-501, 6/ developed and published a regional power plan as required by that act. This plan established that there will be a need for additional power in the region over the 1981-2002 period ranging from 2,310 average annual megawatts under a low growth scenario to 10,721 average annual megawatts under a high growth scenario. 7/ The plan also

- 4/ The project will utilize a renewable resource that will save the equivalent of about 420,400 barrels of oil or 118,500 tons of coal per year.
- 5/ The P.U.D.'s service area is about 2,450 square miles and contains about 19,000 customers.
- 6/ 16 U.S.C. §§ 839b et seq.
- 7/ See Northwest Conservation and Electric Power Plan p. 4-2 (April 27, 1983).

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establishes priorities for alleviating regional power shortages, with conservation and renewable resources designated as first and second priority resources.

The FEIS examined the electric power supply and demand situation in Lewis County and in the Pacific Northwest region. 8/ It found that by 1988, even with this project in service, only about half of the P.U.D.'s load would be supplied by its own resources. With respect to conservation, the FEIS concluded that the single most important obstacle to achieving conservation goals was the generally low price of electricity in the region. However, because the cost of new incremental capacity is much higher than the average price of electricity, there is a potentially high level of cost-effective conservation available when evaluated at the marginal price. However, it is too early to evaluate the effect of conservation measures for the near term. Thus, we believe that a project like Cowlitz Falls, utilizing a renewable resource, conforms to the objectives of the regional energy plan and the priorities set forth therein.

Since issuance of the FEIS in April 1983, the Council has published a revised plan. 9/ This plan projects a regional need for additional power resources by 1992 based on a mid-high load growth rate forecast and about 1996 based on a mid-low load growth rate forecast (the two equally likely and most probable load growth rate scenarios). Based on the length of the construction schedule, Project No. 2833 likely would not be placed in operation until 1991.

In accordance with the Conservation Act, the Council also prescribed a spectrum of resources to meet the region's power needs through 2005. In both the mid-low and mid-high growth rate scenarios, these resources include cost-effective conservation, hydroelectric generating resources, and thermal generating resources to firm up secondary energy; additional cogeneration and coal-fired resources are included to meet the mid-high forecast. Since the Conservation Act designates a higher priority for the use of renewable resources, the use of additional reliable, cost-effective, and environmentally acceptable hydroelectric resources to displace thermal generation and to defer installation of the thermal generation included in the Council's plan is justifiable. Such uses of hydroelectric resources can provide economic benefits, conservation of fossil fuels, and a reduction in the atmospheric impact of the combustion of fossil

- 8/ See FEIS Sections 1-2 and 1-3.

- 9/ Northwest Conservation and Electric Power Plan (1986).

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fuels. The staff's recent reevaluation of project economics indicates these benefits would be available to the region through installation of the project. In addition, the recent and ongoing modifications to increase the carrying capacity of the transmission lines connecting the Pacific Northwest, California and the Southwest will allow a significantly greater transfer of power than has occurred historically and thereby provides an expanded market for economic project power.

In light of the above and the fact that the power to be produced by the project will be used by the P.U.D. to reduce its reliance on BPA, <sup>10/</sup> and given the uncertainties associated with accurately projecting power needs, <sup>11/</sup> we believe there is a need for the project. Also, as discussed later herein, the project may present the only current feasible means of restoring anadromous fish to the upper Cowlitz River Basin. Thus, in addition to the factors discussed above, the project may be necessary for anadromous fish purposes.

The FEIS also examined alternatives to the Cowlitz Falls project, including changing the design, building a woodwaste plant or a coal-fired plant, and taking no action. Staff's analysis indicated that the project as proposed by the P.U.D. at elevation 866 feet mean sea level (msl) would be the least costly, but not necessarily as desirable environmentally as a woodwaste facility. Staff further concluded, however, that operation of the project at elevation 862 msl is environmentally preferable and that the difference in the cost of project energy at this elevation versus the P.U.D.'s initially proposed elevation (866) would not be significant. <sup>12/</sup>

#### Safety and Adequacy

The spillway capacity of the proposed project is adequate to pass the Probable Maximum Flood (PMF). The preliminary design of project structures shown on the Exhibit L drawings is adequate for estimating costs and for planning purposes. These designs,

<sup>10/</sup> See City of Idaho Falls, Idaho, 25 FERC ¶ 62,345 (1983).

<sup>11/</sup> See Friends of the River v. FERC, 720 F.2d 93, 101 (D.C. Cir. 1983).

<sup>12/</sup> The project when operated at either the 866- or 862-foot msl normal pool elevation will be economically feasible based on current conditions with a levelized net annual benefit of \$1.65 million at elevation 866 and \$1.26 million at elevation 862.

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however, are now only conceptual in nature. Therefore, Article 29 of the license requires the filing of revised Exhibit L drawings showing the final design of major project works, together with a supporting design report. Similarly, Article 30 requires the filing of the contract plans and specifications. Also, Article 31 requires a board of independent consultants to review the design, specifications, and construction of the project. Comments from the board must be submitted with the Exhibit L drawings and design memoranda. Commission staff will make a final assessment of the safety of project structures upon review of these documents before construction begins. The FEIS for this project contained a detailed discussion of the seismic risk evaluation and concluded that the risk was not of such a magnitude that the project should not be built. <sup>13/</sup> We believe that the project structures can be safely constructed and operated pursuant to proper engineering standards and the terms and conditions of this license.

#### Environmental Considerations

Comments on the project and analysis of the environmental impacts thereof in the FEIS have been submitted by federal, state, and local agencies as well as individuals and other organizations. In addition to the discussions in the FEIS, all comments have been considered and the significant concerns are addressed below. <sup>14/</sup>

##### A. Geology and Soils

Project-induced landsliding and erosion could be reduced to relatively minor levels by suitable initial slope treatment, drainage control, revegetation, monitoring, and maintenance programs. However, the P.U.D. has proposed only general, not specific or detailed, measures to control erosion and slope stability. Article 34 therefore requires the P.U.D., prior to engaging in any construction or maintenance activity of a land-disturbing nature, and following consultation with appropriate agencies, to prepare an erosion, dust, sedimentation, and slope stability control plan.

Seepage from the reservoir could affect slope stability in banks downstream of the dam and also raise groundwater levels, thereby creating swampy areas in the Ancestral Cowlitz Valley. The P.U.D. has proposed only a general plan for evaluating, monitoring, and mitigating these possible impacts. Article 35 therefore requires

<sup>13/</sup> See FEIS at pp. 2-12 - 2-13.

<sup>14/</sup> A water quality certificate for this project was issued on July 20, 1984, by Ecology pursuant to Section 401 of the Clean Water Act, 33 U.S.C. § 1341.



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the P.U.D., prior to engaging in any construction or maintenance activity of a land-disturbing nature, and following consultation with relevant agencies, to prepare and submit a more detailed plan.

#### B. Groundwater

The elevated water level in the reservoir will cause the groundwater table to rise within the reservoir banks and adjacent land areas. Higher groundwater tables will reduce the crop-producing capability of soils where the resultant groundwater tables are too shallow to be tolerated by crops. Higher groundwater tables could also adversely impact domestic water wells and septic systems of the few dwellings in the area. With the reservoir at elevation 862 feet msl as provided herein, only 10 acres of agricultural land would be adversely affected by inundation or raised groundwater levels. However, with the reservoir at elevation 866 feet msl, as initially requested by the P.U.D., approximately 170 acres of farmland would be adversely affected by higher groundwater levels. A large portion of those lands could experience a significant decline or total loss of productivity. A permeable pumice layer that underlies a major portion of the area that would be affected by a reservoir at elevation 866 feet msl would reduce the effectiveness of drainage systems that might be used for mitigation.

The P.U.D. proposes to monitor groundwater levels before construction and for at least one year after reservoir filling in order to determine the precise amount of farmland that would be adversely affected by project-induced groundwater impacts, and to purchase the land or install drainage works in the adversely impacted areas. If the groundwater impacts on farmland prove to be extensive, the P.U.D. will consider other mitigative measures on a case-by-case basis. The P.U.D. proposes to characterize the water quality of all wells that would be adversely impacted by elevated groundwater tables before filling the reservoir. If the potability of the water is found to be adversely impacted, the P.U.D. will seal the affected wells or relocate improperly sealed wells. The P.U.D. also proposes to modify or relocate any septic fields that are adversely impacted by project-induced changes in groundwater levels.

The P.U.D. has not proposed a means for evaluating or compensating property owners for groundwater impacts on the value of the affected lands or on agricultural productivity, and has not provided specific programs, measures, or schedules for monitoring, evaluating, or mitigating the effects of higher groundwater levels on lands, agricultural production, wells, or septic systems. Thus, while only 10 acres of farmland will be affected by the project as approved herein, we are including Article 36 in the license, requiring the preparation of a plan, after consultation with appropriate

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agencies, that establishes specific programs, measures, and schedules for the monitoring, evaluation, and mitigation of project-related groundwater impacts on agricultural lands, agricultural production, wells, and septic systems.

#### C. Debris

During high-flow periods the Cowlitz and Cispus Rivers and their tributaries transport substantial quantities of organic debris. Commission staff's aerial and ground inspection of the project area during site visits revealed that trees and slash ranging in length from 4 to 90 feet, along with "debris islands" formed by the massing of debris on uprooted trees, are transported by the Cowlitz River. The staff concluded that the P.U.D.'s proposed mitigative measures, i.e., constructing 60-foot wide floodgates at the dam and cutting up debris longer than 60 feet before it was transported toward the dam, would not preclude debris accumulation at the floodgates during project operation. Such accumulation could reduce the capacity of the spillway to pass high flows associated with flood events and, thus, could contribute to flooding in the Randle area. We are including Article 37 in the license requiring the P.U.D., after consultation with the U.S. Army Corps of Engineers (Corps) and Ecology, to prepare a plan for the removal of debris that could block the project's spillway gates.

#### D. Sedimentation and Reservoir Elevation

The Cowlitz River Valley near the headwaters of the proposed reservoir consists of a broad, low-lying floodplain (Big Bottom) that has been historically subject to periodic flooding. Ecology, the Dam Committee, and others have expressed concern that the deposition of sediment in the headwaters of the project reservoir would aggravate flooding in the Big Bottom area. In order to allay these concerns, the P.U.D. developed a mathematical model to simulate the sedimentary processes of the Cowlitz River under pre- and post-project conditions. Based on these model simulations, the P.U.D. determined that, by restoring the portion of the river located in the Big Bottom area to a free-flowing state using open floodgates for flows equal to or greater than 15,000 cfs, sediment deposited in the headwaters of the reservoir would be scoured out of the project area. The P.U.D. believes that operation in this manner would ensure minimal impact to flooding in the Big Bottom area.

Commission staff's mathematical analysis indicates, however, that the P.U.D.'s proposed operational scheme would not effectively scour sediment deposited in the upstream limits of the reservoir if the reservoir were to be maintained at an elevation of 866 feet msl. The headwaters of the project reservoir, maintained at 866, would extend into flood-prone areas where the deposition of sediment

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within the river channel would reduce the capacity of the channel to transport high flows, thereby resulting in the aggravation of flooding in the Big Bottom area. Reducing the reservoir surface elevation from 866 to 862 feet msl would bring the backwater effect of the reservoir downstream toward the dam, significantly reducing the reservoir area that would extend into flood-prone areas. In addition, the staff's analysis indicates that the hydraulic characteristics of the river channel included within the reservoir maintained at an elevation of 862 feet msl are such that the proposed mode of operation would effectively scour sediment from the upper reaches of the reservoir.

In its comments on the FEIS, the P.U.D. proposed to maintain the project reservoir initially at an elevation of 862 feet msl. Furthermore, the P.U.D. proposed to develop and implement a program to obtain data on the amount of sediment deposited within the reservoir and to determine the effectiveness of the proposed mode of operation in minimizing sediment accumulation within the reservoir. The P.U.D. would then use these data to calibrate and verify its mathematical model.

We conclude that operation of the project reservoir at elevation 862 feet msl would minimize the impact of the project on flooding in the Big Bottom area. Therefore, we are, in Article 47, requiring operation of the reservoir at an elevation of 862 feet msl. In addition, to ensure that the proposed mode of operation effectively scours sediment from the headwaters of the reservoir, we are including Article 38, requiring the P.U.D. to develop a program for monitoring sediment accumulation within the project reservoir.

The operational procedures (i.e., number of floodgates required to accommodate various high flows, and methods to determine the timing of gate opening) that would be implemented to return the upper reaches of the reservoir to a free-flowing state when flows are equal to or greater than 15,000 cfs cannot be determined until the final design phase of project implementation. We are therefore including Article 39 in this license, requiring the P.U.D., within 2 years from the date of issuance of this license, to file for Commission approval a plan detailing these operational procedures. <sup>15/</sup>

#### E. Fish and Wildlife Resources

On March 10, 1986, the P.U.D. filed a plan, developed in cooperation with Game, for mitigation of project impacts and enhancement of the fishery and wildlife resources of the project area, together with an agreement between itself and Game regarding implementation of the plan.

<sup>15/</sup> At such time as the P.U.D. has completed studies showing that a higher reservoir elevation would not aggravate flooding, it could request an appropriate amendment to its license.

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The major fishery components of the plan include:

- (1) construction practices that will minimize soil erosion;
- (2) design considerations that will provide a spillway to minimize nitrogen supersaturation and allow for later construction of downstream migrant fish collection facilities at the project;
- (3) a trout-stocking program for both the construction and project operation periods;
- (4) construction of sub-impoundments within the project reservoir to provide habitat and a fishery for warmwater species;
- (5) stream-habitat improvements in Siler and Kiona Creeks, tributaries to the project reservoir; and
- (6) a program to monitor the implementation and success of fishery mitigative measures.

Concerning wildlife, the plan provides for:

- (1) the purchase and management of lands for wildlife purposes;
- (2) creation of sub-impoundments for waterfowl;
- (3) management of the transmission right-of-way to provide forage for wildlife;
- (4) reservoir shoreline management to encourage the development of riparian habitat; and
- (5) monitoring of the wildlife measures.

The plan also provides measures for the protection and enhancement of the bald eagle, a federally listed threatened species. The measures include:

- (1) preservation of perch trees along the proposed reservoir shoreline;
- (2) planting of cottonwood trees along the shoreline;
- (3) construction of 10 to 20 artificial perch sites;
- (4) avoidance of reservoir clearing operations during the period between January 1 and March 1; and
- (5) design of the transmission line to minimize electrocution hazards to eagles.

The plan is designed for a reservoir elevation of 866 feet msl, but contains a provision for adjustment of the plan, should the project be licensed at an elevation of 862 feet msl. The U.S. Fish and Wildlife Service, by letter dated March 7, 1986, stated it supported the plan and that it does not object to issuance of a license. By letter dated January 27, 1986, Fisheries expressed its support for the plan and indicated that it does not object to issuance of a license. The National Marine Fisheries Service expressed its concurrence with Fisheries' position in a letter dated March 6, 1986. These agencies also pointed out that this project may present the only current feasible means of restoring anadromous fish to the upper Cowlitz River Basin, since there currently exists no practical way of capturing young salmon on their way to the ocean. They also agree that the project would not result in adverse cumulative impacts to the fishery resources of the Basin.

We have reviewed the submitted plan and agree with the agencies that its numerous provisions will adequately compensate for project impacts on fish and wildlife resources, including bald eagles, and will provide additional enhancement measures. Also, we agree with them that the plan's provisions requiring the project to be designed to facilitate later construction of downstream migrant fish collection facilities will help ensure the success of anadromous fish

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restoration efforts in the Basin. Finally, we agree that the project, if constructed and operated in accordance with the plan, will not result in adverse cumulative impacts to fishery resources and water quality, including sedimentation. 16/ Accordingly, we are approving the plan in ordering paragraph (D) hereof. Also, we are including as Article 46 of the license a provision of the agreement providing that the project will operate in a run-of-river mode with a 1,000-cubic-feet-per-second minimum flow when the elevation of the downstream Riffe Lake is drawn down below 750 feet msl. However, under the Federal Power Act, the Commission is vested with the authority for determining how a project is constructed, operated and maintained. Therefore, in carrying out the provisions of the plan and the related agreement, the P.U.D. must comply with the provisions of the Federal Power Act, the other terms and conditions of this license, and all orders of the Commission or its delegates. Also, although the plan includes measures for the protection and enhancement of the bald eagle, we are requiring the P.U.D., in Article 40, to submit a final plan incorporating those measures, including a map showing the location of the proposed measures to enhance the bald eagle, and detailed design drawings of the artificial eagle perch sites and the transmission line.

#### F. Cultural Resources

The P.U.D. has completed an extensive cultural resources mitigation plan. Six archeological sites and 15 historical sites and structures were identified in the project area, but most of them are outside of the area of project impact. One archeological site (the Cowlitz Falls South Site, 45LE209) has been determined eligible for inclusion in the National Register of Historic Places. The P.U.D. has developed a plan to reduce project impacts on this site, to further test other sites before engaging in any construction or maintenance activity of a land-disturbing nature, and to monitor construction activities in the event that new sites are discovered during project construction. The plan also includes a post-construction monitoring program to determine if project operation causes currently unexpected impacts to known sites or exposes currently unknown resources through erosion. The State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the Cowlitz Indian Tribe have all endorsed the plan. Article 41 of the license ensures proper implementation of the plan.

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16/ Supplement to Environmental Assessment, Davis Creek Project, FERC Project No. 7182-000, Office of Hydropower Licensing, Federal Energy Regulatory Commission (February 6, 1986). This document is available in the Division of Public Information and in the Commission's public file associated with this proceeding.

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#### G. Recreation

In its Exhibit R, the P.U.D. proposes to develop two public access sites, to reserve land for future recreational development, and to acquire and develop a non-project site as a multi-purpose athletic field. The Exhibit R also states that the P.U.D. is negotiating an agreement with the Lewis County Parks and Recreation Department for the operation and maintenance of the proposed recreational facilities.

The Exhibit R generally conforms to the Commission's regulations and therefore is being approved and made a part of this license. However, we are also including Article 42 requiring that the P.U.D. file a copy of the final agreement for the operation and maintenance of the recreational facilities and a copy of specific site plans and a schedule for completion of each area proposed for initial recreational development.

Intervenor Champion is concerned about the possible impact of traffic associated with project recreational activities on its private logging roads. Although Champion's roads do provide a slightly shorter route to the project area from the larger population areas such as the City of Tacoma, there are better maintained public roads to the project area. Furthermore, peak recreational activity should occur during the weekends, when logging activity is minimal. Therefore, we believe that impacts to these private, unimproved logging roads due to increased recreational opportunities at the project would be minor. The P.U.D. has stated its intention to conclude an agreement with Champion prior to commencement of construction to resolve possible conflicts during the construction period. Article 42 also requires the P.U.D. to file a copy of this agreement.

Intervenor Friends of Whitewater has requested that the P.U.D. replace a boat-ramp take-out facility that will be inundated by the project. The P.U.D. has agreed to do so, and Article 42 requires the facility to be built.

#### H. Land Use

The P.U.D. proposes to purchase in fee an adequate buffer zone consistent with the Commission policy established in Opinion No. 91. 17/ The P.U.D. also proposes to lease back or permit current adjacent land owners to utilize these buffer zone lands for specified purposes. Because of potential conflicts between use of these buffer lands and other project-related activities,

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17/ Alabama Power Company, 12 FERC ¶ 61,060 (1980).

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such as mitigation programs and recreational access, we are including Article 43 in the license, requiring the P.U.D. to prepare a detailed land management plan that coordinates use of buffer areas with other land uses.

# I. Columbia River Basin Fish and Wildlife Program

Pursuant to Section 4(h) of the Conservation Act, 18/ the Council developed the Columbia River Basin Fish and Wildlife Program (Program) 19/ to protect, mitigate and enhance fish and wildlife resources affected by the development and operation of hydroelectric projects on the Columbia River and its tributaries. Section 4(h) states that federal agencies operating or regulating hydroelectric projects within the basin shall exercise their responsibilities to provide equitable treatment for fish and wildlife resources with other purposes for which the river system is utilized. It further states that these agencies shall take into account to the fullest extent practicable the Program adopted thereunder. Finally, project operators or regulators are directed to consult with federal and state fish and wildlife agencies, appropriate Indian Tribes, and affected project operators in carrying out the provisions of the section.

The Commission's regulations require applicants to initiate pre-filing consultation with these entities and to provide for post-filing opportunities for these entities to review and comment on the application and the environmental impact statement. These consultations, as well as environmental scoping meetings conducted by Commission staff, have occurred on this project.

Section 1200 of the Program provides a framework for assessing and mitigating the impacts of new hydroelectric development on fish and wildlife resources and lists a number of mitigative measures that should be implemented. Development of the Cowlitz Falls Project at elevation 862 would result in adverse impacts on fish and wildlife resources because of the inundation of 11 miles of the Cowlitz and Cispus Rivers, the blockage of resident fish movements, and the loss or degradation of 619 acres of wildlife habitat. However, we believe that the fish and wildlife mitigation plan submitted by the P.U.D. and approved herein will adequately mitigate expected adverse impacts to fish and wildlife resources, including bald eagles.

18/ 16 U.S.C. § 839b(h).

19/ The Program was adopted on November 15, 1982, and amended on October 10, 1984.

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License articles will ensure protection of important cultural resource sites of the Cowlitz Indian Tribe. Article 48 also reserves Commission authority to alter project structures and operations pursuant to changes in the Program. As discussed previously, the relevant resource agencies and the Tribe support the project.

We therefore conclude that the issuance of this license is consistent with the Conservation Act and the Program developed thereunder, and will provide equitable treatment to fish and wildlife.

## Other Aspects of Comprehensive Development

We find that the project, the benefits of which outweigh its impacts and which is not in conflict with any planned development, would make good use of the water resources of the Cowlitz and Cispus Rivers, and would be best adapted to the comprehensive development of the Cowlitz River Basin for beneficial purposes upon compliance with the terms and conditions of this license. Approval of the project is therefore in the public interest.

## The Commission orders:

(A) This license is issued to Public Utility District No. 1 of Lewis County, Washington, under Part I of the Federal Power Act (Act) for a period of 50 years, effective the first day of the month in which this order is issued, for the construction, operation, and maintenance of the Cowlitz Falls Project No. 2833, located in Lewis County, Washington on the Cowlitz River, and subject to the terms and conditions of the Act which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) The Cowlitz Falls Project No. 2833 consists of:

- (1) All lands, to the extent of the licensee's interest in those lands, constituting the project area and enclosed by the project boundary, the project areas and boundary being shown and described by certain exhibits which form part of the application for license and which are designated and described as:

<u>Exhibit</u>	<u>FERC No. 2833-</u>	<u>Title</u>
J-1	1	Regional Plan-Transmission System
J-2	2	General Project Plan
K-1	3	Project Boundary - Cowlitz Falls Reservoir
K-2	4	Project Boundary - Cowlitz Falls Reservoir

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K-3	5	Project Boundary - Cowlitz Falls Reservoir
K-4	6	Project Boundary - Transmission line
K-5	7	Tabulation of Project Boundary Data

(2) Project works consisting of:

- (a) a 140-foot-high, concrete-gravity dam, having a crest length of 800 feet at River Mile 88.6 of the Cowlitz River; (b) a reservoir covering 610 acres, with a total volume of 10,200 acre-feet at an elevation of 862 feet mean sea level (msl); (c) an ogee type spillway with four spillway bays, each 60 feet wide and equipped with 60-foot-wide and 36-foot-high radial gates; (d) a power intake structure, integral with the dam, consisting of two 27-foot-wide and 33-foot-high bellmouth openings, each protected by a trash rack, and a sediment control wall; (e) two 18-foot-diameter steel penstocks; (f) a powerhouse, integrated with the dam, containing two Kaplan turbines directly connected to two synchronous generators with total installed capacity of 70 MW; (g) a switchyard, located 500 feet downstream from the powerhouse; (h) two 13.8/115-kV delta-wye three-phase step-up transformers each rated 40.5 MVA FOA; (i) two 115-kV transmission lines, approximately 500 feet in length, constructed from the step-up transformers to the 115 kV bus of the proposed switchyard near the powerhouse; (j) a 115-kV, 5.2-mile-long transmission line connecting the switchyard to the point of junction with the 115-kV bus of the licensee's proposed Glenoma substation; and (k) all other facilities and interests appurtenant to the operation of the project, which are generally shown and described by the following exhibits:

Exhibit	FERC No. 2833-	Title
L-1	8	General Project Arrangement Reservoir Map - Sheet 1
L-2	9	Reservoir Map - Sheet 2
L-3	10	Reservoir Map - Sheet 3
L-4	11	Project Plan
L-5	12	Dam and Spillway Sections
L-6	13	Typical Powerhouse Plans
L-7	14	Powerhouse Sections
L-8	15	Downstream Channel Modifications
L-9	16	Typical Switchyard Layout
L-10	17	Typical One Line Diagram
L-11	18	Transmission Line Structures
L-12	19	Geologic Sections

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L-13	20	Site Geology and Exploration Plan
L-14	21	Ancestral Valley - Plan and Sections
L-15	22	Geotechnical Investigations - Ancestral Valley
L-16	23	Geotechnical Investigations - Ancestral Valley

Exhibit M: General description of mechanical, electrical and transmission equipment consisting of six (6) typewritten pages, filed on April 6, 1981;

Exhibit R: Exhibit R, filed on April 6, 1981, consisting of pages 10-1 through 10-32 of text and tables, and one drawing, Figure 10-1, FERC No. 2833-24.

- (3) All of the structures, fixtures, equipment, or facilities used or useful in the maintenance and operation of the project area, including such portable property as may be used or useful in connection with the project or any part thereof, whether located on or off the project area, if and to the extent that the inclusion of such property as part of the project is approved or acquiesced in by the Commission; together with all riparian or other rights, the use or possession of which is necessary or appropriate in the maintenance of the project.

(C) Exhibits J, K, L, M, and R designated and described above are approved and made a part of the license.

(D) The Cowlitz Falls Project Fish and Wildlife Mitigation Plan, filed on March 10, 1986, in this proceeding, consisting of 18 pages of text and 3 figures, is approved.

(E) This license is issued subject to the terms and conditions set forth in FERC Form L-4 (revised October 1975) entitled "Terms and Conditions of License for Unconstructed Major Projects Affecting Navigable Waters of the United States" designated as Article 1 through 28. The license is also subject to the following special articles:

Article 29. The licensee shall file with the Commission for approval by the Director, Office of Hydropower Licensing, revised Exhibit L drawings showing the final design of project structures. The revised Exhibit L drawings shall be accompanied by a supporting design report and licensee shall not begin construction of any project structure until the corresponding revised Exhibit L has been approved.

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Article 30. The licensee shall file with the Commission and provide the Commission's Regional Director, and the Director, Office of Hydropower Licensing, one copy each of the contract drawings and specifications at least 60 days prior to start of construction. The Director, Office of Hydropower Licensing, may require changes in the plans and specifications so as to assure a safe and adequate project.

Article 31. The licensee shall retain a Board of three or more qualified, independent, engineering consultants to review the design, specifications, and construction of the project for safety and adequacy. The names and qualifications of the Board members shall be filed with the Commission for approval by the Director, Office of Hydropower Licensing, with a copy provided to the Commission's Regional Director. Among other things, the Board shall assess: the geology of the project site and surroundings; the design, specifications, and construction of the dam, spillway, powerhouse, electrical and mechanical equipment, and emergency power supply; instrumentation; the filling schedule for the reservoir(s) and plans for surveillance during the initial fillings; and construction procedures and progress. The licensee shall furnish to the Board, with a copy to the Regional Director and two copies to the Director, Office of Hydropower Licensing, prior to each meeting, allowing sufficient time for review, documentation showing details and analyses of design and construction features to be discussed, significant events in design and construction that have occurred since the last Board meeting, drawings, questions to be asked, a list of items for discussion, an agenda, and a statement indicating the specific level of review to be performed by the Board. Within 30 days after each Board meeting, the licensee shall submit to the Commission copies of the Board's report and a statement of intent to comply with the Board's recommendations, or a statement identifying a plan to resolve the issue(s). In the event of noncompliance, the licensee shall provide detailed reasons for not doing so. The Board's review comments for each portion of the project shall be submitted prior to or simultaneously with the submission of the corresponding Exhibit L final design drawings and design memoranda. The licensee shall also submit a final report of the Board upon completion of the project. The final report shall contain a statement indicating the Board's opinion with respect to the construction, safety, and adequacy of the project structure(s).

Article 32. The licensee shall review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction and shall ensure that construction of cofferdams and deep excavations are consistent with the

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approved design. At least 30 days prior to start of construction of the cofferdams, the licensee shall provide to the Commission's Regional Director one copy of the approved cofferdam construction drawings and specifications and a copy of the letter(s) of approval.

Article 33. The licensee shall commence the construction of the project within 2 years of the date of issuance of the license, and shall thereafter in good faith and with due diligence prosecute and complete such construction of project works within 6 years of the date of issuance of the license.

Article 34. The licensee, after consultation with the Soil Conservation Service of the U.S. Department of Agriculture, the U.S. Environmental Protection Agency, the Washington Department of Ecology, the Washington Department of Game, and the Washington Department of Fisheries, shall prepare and file with the Commission, within 1 year from the date of issuance of this license, and prior to engaging in any construction or maintenance activity of a land-disturbing nature, a plan to control erosion, dust, and slope stability, and to minimize the quantity of sediment or other potential water pollutants resulting from construction and operation of the project. The plan shall also include: provisions for identifying problem areas along the reservoir shoreline and for designing and implementing suitable treatment of those areas prior to reservoir filling; an implementation schedule; monitoring and maintenance programs for project construction and operation; and provisions for periodically reviewing the plan and for implementing any necessary revisions to the plan. In the event that the licensee does not concur with any agency recommendations, licensee shall provide a discussion of the reasons for not concurring based on actual site geological, soil, and groundwater conditions. The Commission reserves the right to require changes to the plan. Unless the Director, Office of Hydropower Licensing, directs otherwise, the licensee may commence ground-disturbing or spoil activities at the project 90 days after filing the above plan.

Article 35. The licensee, after consultation with the Soil Conservation Service of the U.S. Department of Agriculture, and the U.S. Environmental Protection Agency, shall prepare and file with the Commission and provide the Commission's Regional Director, within 6 months from the date of issuance of this license, and prior to engaging in any construction or maintenance activity of a land-disturbing nature, a detailed plan for evaluating, monitoring, and mitigating the effects of project-induced seepage and raised groundwater

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levels in slopes downstream of the dam and in the Ancestral Cowlitz Valley. This plan shall also include: details of the proposed investigation to determine the project's potential seepage and groundwater impacts; an implementation schedule for seepage and groundwater monitoring and mitigation during project construction and operation; provisions for periodically reviewing the plan and for implementing any necessary revisions to the plan; and documentation of agency consultation. In the event that the licensee does not concur with any agency recommendations, licensee shall provide a discussion of the reasons for not concurring. The licensee shall periodically furnish to the Commission, as may be requested by the Commission or the Regional Director, a report of these programs. The Commission reserves the right to require changes to the plan. Unless the Director, Office of Hydropower Licensing, directs otherwise, the licensee may commence ground-disturbing or spoil activities at the project 90 days after filing the above plan.

Article 36. The licensee, after consultation with the U.S. Environmental Protection Agency, the Soil Conservation Service of the U.S. Department of Agriculture, and the State of Washington Department of Agriculture, shall prepare and file with the Commission and provide the Commission's Regional Director, within 6 months from the date of issuance of this license, a plan establishing specific measures to identify, monitor, evaluate, and mitigate impacts to agricultural lands, agricultural production, wells, and septic systems resulting from project-related groundwater level increases.

The plan shall include: provisions for identifying and mapping affected lands, wells, and septic systems; an implementation schedule; a monitoring and implementation program for mitigative measures as specific needs are identified; provisions for compensating property owners for reduced agricultural production or for purchasing affected lands; provisions for periodically reviewing the plan and for making any necessary revisions to the plan; and documentation of agency consultation. In the event that the licensee does not concur with any agency recommendations, the licensee shall provide a discussion of the reasons for not concurring based on actual site geological, soil, and groundwater conditions. The licensee shall periodically furnish to the Commission, as may be requested by the Commission or the Regional Director, reports on these monitoring activities and mitigative measures. The Commission reserves the right to require changes to the plan.

Article 37. The licensee, after consultation with the U.S. Army Corps of Engineers and the Washington Department of Ecology, and within 1 year from the date of issuance of this

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license, shall prepare and file, for Commission approval, a debris removal plan to be implemented during construction and operation of the project. The plan shall include, but not be limited to: (i) a delineation of the area from which debris will be removed; (ii) criteria that will be used to designate the types of debris to be removed; (iii) methods of removal; and (iv) a schedule detailing when debris removal operations would be undertaken.

Article 38. The licensee, in cooperation with the U.S. Army Corps of Engineers, and the Washington Department of Ecology, within 18 months from the date of issuance of this license, shall file, for Commission approval, a monitoring program to determine the effectiveness of project operation in eliminating sediment buildup in the headwaters of the project reservoir. Comments on the program from the aforementioned agencies should be included in the filing. The Commission reserves the right to require modifications to the program.

Article 39. The licensee, within 2 years from the date of issuance of this license, shall file a plan of operation with the Commission, for approval, detailing the operational procedures that would be implemented to minimize the accumulation of sediment in the headwaters of the project reservoir when flows of the Cowlitz River are equal to or greater than 15,000 cubic feet per second. The Commission reserves the right to require modification to the plan.

Article 40. The licensee, in cooperation with the Endangered Species Office of the U.S. Fish and Wildlife Service and the Washington Department of Game, shall prepare, consistent with the provisions of the plan approved in ordering paragraph (D) hereof, and file a bald eagle protection plan, for Commission approval, within 1 year from the date of issuance of this license. The plan shall include: (1) a map showing the location of perch trees that will be preserved along the reservoir shoreline, the location of cottonwood plantings, and the location of the artificial perch sites; (2) detailed design drawings of the artificial perch sites; (3) detailed design drawings of the project transmission line, clearly showing phase spacing, configuration and grounding practices, prepared in accordance with guidelines set forth in "Suggested Practices for Raptor Protection on Power Lines," Raptor Research Report No. 4, Raptor Research Foundation, Inc., 1981; and (4) agency comments on the adequacy of the plan. The licensee shall not commence reservoir clearing or operation of the transmission line until the plan is approved by the Commission.

Article 41. The licensee, in cooperation with the Washington State Historic Preservation Officer (SHPO) and the Cowlitz Indian Tribe, prior to engaging in any construction or maintenance activity of a land-disturbing nature or project activity that would affect significant cultural resources, shall develop and implement a cultural resource management plan to reduce project-induced impacts to the Cowlitz Falls South Archeological Site and to avoid indirect impacts to sites that would not be directly impacted by project construction or operation. The management plan shall consist of: (i) a data recovery program for the Cowlitz Falls South Archeological Site consistent with the Advisory Council on Historic Preservation's Guidelines for the Treatment of Archeological Properties; (ii) a surveillance/monitoring program to detect any indirect effects on the Cowlitz Falls North Archeological Site, with provisions for additional testing work to reassess the site's importance if damage is detected, and with a procedure for formulating specific mitigative measures in the event of such damage; (iii) a program to raise the elevation of the Champion International wooden bridge and its approaches to compensate for project-induced increases in water levels; (iv) a program for monitoring archeologically-sensitive areas during transmission line construction, including specific measures for developing mitigative or avoidance procedures if significant resources are discovered; and (v) a program for the curation of any artifacts recovered during archeological work at the project, developed in consultation with the Cowlitz Indian Tribe.

Reports documenting mitigation at the Cowlitz Falls South Site, and their acceptance by the SHPO, shall be filed with the Commission at least 30 days prior to any construction or ground disturbance that would impact the site's significant archeological attributes. The licensee shall make available funds in a reasonable amount for this and any other cultural resource work at the project as required.

If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist or historian shall be consulted to determine the significance of the sites, and the licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological or historical resources. If the licensee and the SHPO cannot agree on the amount of money to be expended on archeological or historical work related to the project, the Commission reserves the right to require the licensee to conduct, at its own expense, any such work found necessary.

Article 42. The licensee, after consultation with the Washington State Department of Natural Resources and the Lewis County Parks and Recreation Department, shall design, complete construction of, and provide for public utilization of the First Phase of the Cowlitz Falls Project Recreational Facilities, as described in the approved Exhibit R, prior to commencement of project operation. Further, the licensee, within 6 months following completion of the construction of the First Phase recreation facilities, shall file with the Commission an as-built drawing(s) showing the type and location of the facilities provided; a statement of who will operate and maintain the facilities, including a copy of any agreement signed with an entity(s) to operate and maintain the facilities; a copy of any agreement signed with Champion International Corporation regarding the use of Champion's logging roads; and a copy of any comments from the above-named agencies. The licensee shall, after consultation with the Friends of Whitewater, construct a boat ramp take-out facility at the head of the reservoir on the Cispus River so that boating use of that river will not be interrupted by project construction or operation.

Article 43. The licensee, after consultation with the Washington State Department of Natural Resources and the Lewis County Parks and Recreation Department, and within 1 year from the date of issuance of this license, shall file, for Commission approval, a copy of a detailed management plan for the use of project buffer zone lands, which shall include: (i) a proposed permit system (with a sample permit); (ii) allowable uses for the lands; (iii) any conditions to be specified for such allowable uses; and (iv) procedures for a case-by-case analysis, to be performed by the licensee prior to approval of any permits for use of project lands, to avoid potential conflicts with other usages, such as for public recreation or other project purposes. Copies of any comments received from the above-named agencies shall be filed concurrently with the plan.

Article 44. The licensee shall pay the United States the following annual charges:

For the purpose of reimbursing the United States for the cost of administration of Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 99,000 horsepower.

Article 45. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands



and waters and to convey certain interests in project lands and waters for certain other types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the uses and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the uses and occupancies for which it grants permission are maintained in good repair and comply with applicable State and local health and safety requirements.

Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction; (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site; and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy

of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of, project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marinas; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each

project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the submittal date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraphs (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed

under this article only upon approval of revised Exhibit J or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit J or K drawings would be filed for approval or other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

Article 46. The licensee shall operate the Cowlitz Falls Project in a run-of-river mode. Daily variations in the water surface elevation of the reservoir shall not exceed two feet under normal operating conditions. During periods when Project No. 2016's Riffe Reservoir, located immediately downstream, is drawdown below elevation 750 feet mean sea level, the flow below the Cowlitz Falls Dam shall be maintained at a minimum of 1,000 cfs or inflow to the Cowlitz Falls Project reservoir, whichever is less. Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and the Washington State Department of Fisheries and Department of Game.

Article 47. The licensee shall maintain the water surface elevation of the Cowlitz Falls Project Reservoir at an elevation not to exceed 862 feet msl during the period when the discharge of the Cowlitz River, as measured at the Randle Bridge, is less than 15,000 cubic feet per second.

Article 48. The Commission reserves the authority to order, upon its own motion or upon the recommendation of federal or state fish and wildlife agencies or affected Indian Tribes, alterations of project structures and operations to take into account to the fullest extent practicable at each stage of the decision-making process the regional fish and wildlife program developed and amended pursuant to the Pacific Northwest Electric Power Planning and Conservation Act.

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FEDERAL ENERGY REGULATORY COMMISSION

(F) The motion for summary disposition and denial of license filed on April 17, 1986, in this proceeding, by Catherine Sadler and Norman Sadler is denied as to Catherine Sadler and rejected as improper as to Norman Sadler.

(G) The motion to condition license filed on March 7, 1986, in this proceeding by Friends of Whitewater is granted to the extent indicated herein and denied in all other respects.

(H) The petition for expedited issuance of license filed on April 25, 1986, in this proceeding by the Public Utility District No. 1 of Lewis County, Washington is dismissed as moot.

(I) All other motions or requests filed in this proceeding, to the extent not granted herein, are denied.

(J) This order is final unless an application for rehearing is filed within 30 days from the date of its issuance, as provided in Section 313(a) of the Act. The filing of an application for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file an application for rehearing shall constitute acceptance of this license.

By the Commission.

( S E A L )

*Kenneth F. Plumb*

Kenneth F. Plumb,  
Secretary.

TERMS AND CONDITIONS OF LICENSE FOR  
UNCONSTRUCTED MAJOR PROJECT AFFECTING  
NAVIGABLE WATERS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project works shall be constructed in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, of the Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any feature or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner

as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 22. Whenever the United States shall desire to construct, complete, or improve navigation facilities in connection with the project, the Licensee shall convey to the United States, free of cost, such of its lands and rights-of-way and such rights of passage through its dams or other structures, and shall permit such control of its pools, as may be required to complete and maintain such navigation facilities.

Article 23. The operation of any navigation facilities which may be constructed as a part of, or in connection with, any dam or diversion structure constituting a part of the project works shall at all times be controlled by such reasonable rules and regulations in the interest of navigation, including control of the level of the pool caused by such dam or diversion structure, as may be made from time to time by the Secretary of the Army.

Article 24. The Licensee shall furnish power free of cost to the United States for the operation and maintenance of navigation facilities in the vicinity of the project at the voltage and frequency required by such facilities and at a point adjacent thereto, whether said facilities are constructed by the Licensee or by the United States.

Article 25. The Licensee shall construct, maintain, and operate at its own expense such lights and other signals for the protection of navigation as may be directed by the Secretary of the Department in which the Coast Guard is operating.

Article 26. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee

or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 27. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 28. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.



COWLITZ FALLS PROJECT FISH AND WILDLIFE MANAGEMENT  
AGREEMENT

AMENDMENT NO. 1

WHEREAS, Lewis County Public Utility District No. 1, hereinafter referred to as the "District", has a Federal Energy Regulatory Commission (FERC) license (FERC No. 2833) to construct and operate the Cowlitz Falls Project on the Cowlitz River in Lewis County, Washington; and,

WHEREAS, the District and the Washington Department of Wildlife, hereinafter referred to as "Wildlife", have an existing agreement titled the *Cowlitz Falls Project Fish and Wildlife Management Agreement* that was signed on February 25, 1986, and approved by FERC in Order 2833-002 issued June 30, 1986; and,

WHEREAS, the aforementioned *Management Agreement* contains a *Cowlitz Falls Project Fish and Wildlife Mitigation Plan* that, by Section 2, Fish Stocking element #3 (page 13), requires the planting of two adult and 100 fingerling largemouth bass per acre and one pair of black crappie per acre in a 30 acre and a 9 acre subimpoundment adjacent to the Cowlitz Falls reservoir; and,

WHEREAS, concerns have arisen about the suitability of the water depth and water quality in the subimpoundments to support these fish during reservoir drawdown; and

WHEREAS, Wildlife personnel have searched unsuccessfully for other suitable waters in the project vicinity where the bass and crappie could be planted and support a new fishery.

NOW, THEREFORE, the District and Wildlife (hereinafter collectively referred to as the "Parties") amend the 1986 *Cowlitz Falls Project Fish and Wildlife Mitigation Plan* in the following manner:

1. Change the heading of Section 2, Fish Stocking element #2 (page 13) from "Trout Stocking Program" to "Trout Stocking Program (On-Site)."
2. Delete Section 2, Fish Stocking element #3 (page 13) entitled "Subimpoundments" in its entirety.
3. Replace Section 2, Fish Stocking element #3 (page 13) with:  
  
"3. Trout Stocking Program (Off-Site). The District shall annually stock 500 rainbow trout [400 catchable size (8" - 12"); 100 jumbo size (larger than 12")]. Location of this annual stocking can be rotated throughout Lewis County at suitable locations mutually

agreed upon by Wildlife and the District. The District shall procure the trout pursuant to the guidelines and requirements of this Mitigation Plan.

The District shall fund, coordinate, and administer an annual children's fishing derby at the location of the off-site trout release. The District shall release the fish immediately prior to the children's fishing derby. In 1994, the District shall provide one hundred dollars (\$100) in prizes/awards for the derby. The amount the District shall provide for prizes/awards shall increase by 5% each year thereafter.

The District may involve a civic organization to assist in administering the fishing derby. The District shall coordinate the timing and other pertinent details of the fish stocking and derby with Wildlife. Wildlife may assist the derby as funding and personnel levels allow."

All other sections of the *Management Agreement* and *Mitigation Plan* remain unchanged and in effect. This amendment shall remain in effect through the life of the *Management Agreement* unless modified by mutual written agreement of the District and Wildlife.

APPROVED,

by DAK... to Mgr 4/3/94  
Public Utility District      Date  
No. 1 of Lewis County

Dr. ... 12/29/93  
Washington Department      Date  
of Wildlife

**COWLITZ FALLS PROJECT**

**FISH AND WILDLIFE**

**MANAGEMENT AGREEMENT**

**February 24, 1986**

**Public Utility District No. 1 of Lewis County**

**and**

**Washington State Department of Game**

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COWLITZ FALLS PROJECT FISH AND WILDLIFE  
MANAGEMENT AGREEMENT

THIS AGREEMENT is entered into this 25 day of FEBRUARY, 1986, by and between the Public Utility District No. 1 of Lewis County, a municipal corporation and public utility district organized and existing under the Laws of the State of Washington, hereinafter referred to as the "District", and the State of Washington, acting by and through its Department of Game, hereinafter referred to as "Game".

WHEREAS, it is the goal of the District to develop a hydro-electric generating resource in Lewis County, Washington for the benefit of its residents, and in pursuit of that goal, the District has applied for a license from the Federal Energy Regulatory Commission to construct and operate the Cowlitz Falls Hydroelectric Project (FERC Project No. 2833).

WHEREAS, it is also the goal of the District and Game upon the development of the Cowlitz Falls Hydroelectric Project to protect, conserve and mitigate fish and wildlife resources and to achieve habitat replacement.

WHEREAS, the District and Game agree that implementation of the Mitigation Plan shall constitute the District's full and complete compliance with its obligation to Game with respect to fish and wildlife.

NOW, THEREFORE, the District and Game, for and in consideration of the mutual covenants and agreements herein contained, hereby agree, subject to FERC approval, as follows:

1. Definition of Terms

**Agreement** - shall mean Cowlitz Falls Project Fish and Wildlife Management Agreement as executed between the District and Game.

**Buffer Zone** - shall mean the land around the reservoir located in the FERC Project boundary, other than for Project features. Section 5, Maps of the Mitigation Plan, sets forth the Project Boundary as proposed to the FERC.

**Cowlitz Falls Hydroelectric Project or Project** - shall mean the facility described in the FERC License Application for the Cowlitz Falls Hydroelectric Project, FERC Project No. 2833, or any substantially similar project utilizing the same water resources developed pursuant to a FERC license. These facilities shall include, but not be limited to, a dam, spillway, powerhouse, reservoir, transmission and electri-

cal facilities to and including the Glenoma Substation, operation and maintenance facilities and Project lands, and the facilities and programs for fish and wildlife (including wildlife sites), recreation, debris and sediment control.

**Commercial Operation** for the Project shall mean 12:01 a.m. of the day the Project is ready to deliver power and energy on a continuing basis.

**District** - shall mean Public Utility District No. 1 of Lewis County, Washington, a municipal corporation and public utility district organized and existing under the laws of the State of Washington or its successor agency operating the Project.

**FERC** - shall mean the Federal Energy Regulatory Commission, United States Department of Energy, or its successor agency.

**Mitigation Plan** - shall mean the attached Cowlitz Falls Project Fish and Wildlife Mitigation Plan describing actions to be taken to mitigate, compensate and enhance fish and wildlife resources affected by the Project.

**Notice of Commencement** - shall mean the written notification to Game of the District's intent to proceed with the Project and begin the Mitigation Plan.

**Washington State Department of Game (Game)** - shall mean the State of Washington acting through its Department of Game, or successor agency, for the protection of game fish and wildlife resources.

**Wildlife Mitigation Lands** - shall mean the coniferous managed forests and deciduous managed forests, Sites #1 through #8, as set forth in the Cowlitz Falls Project Mitigation Plan. Although not defined as Wildlife Mitigation Lands, other Project lands will also be used for wildlife mitigation as described in the Wildlife Plan (e.g., transmission corridor, Buffer Zone).

## **2. Purpose of Agreement**

The purpose of this Agreement is to formalize fish and wildlife mitigation plans to protect, replace or substitute, and in some cases enhance, the fish and wildlife habitat affected by the Cowlitz Falls Hydroelectric Project as described in the FERC license and amendments thereof. This Agreement, with the attached Mitigation Plan, sets forth the improvements and management techniques, both initial and long term, for fish and wildlife mitigation. The Agreement also defines the District's obligations to Game for all game fish and

wildlife resources affected by the construction and operation of the Project.

3. Term of Agreement

The Agreement will run concurrently with the FERC license for the Project (FERC No. 2833) and, when issued, is expected to last up to 50 years in duration. The District or Game has the option of renewing this Agreement if the Project is relicensed to the District. This Agreement will become void if the Project is not developed by the District.

4. Description of Project

In April 1981, the District filed for a license from the Federal Energy Regulatory Commission to construct and operate the Project (FERC Project No. 2833). The Project, as proposed, would include a concrete-gravity dam and integral powerhouse at river mile 88.6 in the Cowlitz River, a reservoir at elevation 866 feet which would inundate 12.3 miles of the Cowlitz River and 1.7 miles of the Cispus River, and an overland transmission corridor to the District's planned Glenoma Substation. Downstream channel modifications to increase the head on the turbines would also be included. The Project construction and operation is more fully described in the FERC License Application and in the FERC license. Impacted areas for which mitigation is being proposed include:

<u>Feature</u>	<u>Approx. Acres</u>	<u>Comments</u>
Dam and Powerhouse	20	--
Reservoir, Elevation 866'	870	425 acres-terrestrial
Buffer Zone	665	434 acres-wildlife mitigation
Transmission Corridor and Switchyard	36	--
Construction Yards and Roads	20	Some only temporary
Recreation	175	Includes campground, park, boat launch and lands for future sites
Downstream Channel	<u>44</u>	
Total	1,830	



The Mitigation Plan addresses the impacts of all these features; however, initial impacts may be somewhat less based on FERC action and final design. If the District amends the FERC license to modify Project features and no Wildlife Mitigation Lands or other lands are significantly affected, then no additional mitigation will be needed.

5. Alternative Reservoir Elevations

The District, during the evaluation of the Project, studied reservoir elevations of 862, 866 and 872 ft. All reservoir levels provide energy at comparable cost. The 872 ft. reservoir elevation provides the greatest amount of energy; however, significant reductions in the environmental impact of the Project are realized by lowering the reservoir to elevation 866 ft. The Mitigation Plan is designed to mitigate and compensate impacts at the selected level of 866 ft., but also allows for adjustment of the Mitigation Plan if the Project is licensed at the reservoir elevation of 862 ft.

6. Background Study

In August 1979, the District contracted with the Applied Research Section of the Washington State Department of Game (Game) Habitat Management Division to study terrestrial habitats, wildlife populations and game fish in the Cowlitz Falls area. The purpose of the study was to collect data on existing habitats and associated populations of game fish and wildlife to use as a base to determine impacts from the Project. Once habitats and populations were determined, a plan was recommended to mitigate the impacts of the Project.

The document produced, "Cowlitz Falls Fish and Wildlife Study, Final Report, November 1981," (Wood, et al., 1981) contains the results of the study to determine the impacts of the Project, and is the basis for the mitigation program as set forth in this Agreement.

7. Regional Plan

The District and Game recognize the goals and objectives of the Columbia River Basin Fish and Wildlife Program (Program) developed as part of the Regional Plan. The Mitigation Plan takes into account, to the extent practicable, the pertinent elements of the Program for the development of the Cowlitz Falls Project.

8. Threatened or Endangered Species

In compliance with the Endangered Species Act of 1973, the

District, in consultation with the U.S. Fish and Wildlife Service, has addressed the impacts to the bald eagle and other threatened or endangered species. The Cowlitz Falls Project Mitigation Plan details mitigation and enhancement measures designed for the conservation of these species.

9. Cumulative Impacts

The District and Game agree that Project impact studies and the Mitigation Plan when fully implemented adequately address any concerns of cumulative impacts.

10. Implementation of Plan

- a) The District will begin implementation of the Mitigation Plan at the start of construction of the Project. During final design, a Project schedule will be developed in cooperation with Game to allow adequate time to survey mitigation areas, to order plants, to establish game fish sources and to begin the alteration of existing vegetation before inundation occurs. The schedule will address all actions under this Agreement. It is planned that initial mitigation work will be accomplished concurrently with the construction of the Project.
- b) The District has the responsibility of implementing the Mitigation Plan in accordance with this Agreement. The District will send Game a "Notice of Commencement" to implement the Mitigation Plan as per this Agreement. The District will contract with Game to participate in the implementation of the Mitigation Plan. It is the District's desire to implement the Mitigation Plan in the most effective, successful, and economical way available. The intent is to utilize Game for those tasks where their expertise and qualified personnel are reasonably available. The scope of work to be contracted to Game will be negotiated at the start of the final design phase of the Project.
- c) The District agrees to pay the personnel and material costs necessary to implement the Mitigation Plan. The District is not responsible for work done by Game prior to a written contract for such work.
- d) If 50% of the acreage for the Wildlife Mitigation Land is available for initial mitigation work, and \$300,000 is placed in an account reserved for implementing the Mitigation Plan, not including land purchase, then the District has the right to proceed with construction of the Project, and Game agrees to allow the Project

to proceed to completion.

11. Appointment of Representative

The District and Game agree to appoint one person each as representative to the Cowlitz Falls Project. Their responsibilities are to coordinate with each other and their respective agencies, the activities under the Mitigation Plan, and to suggest solutions to any problem which may arise in implementing the Mitigation Plan. The District's representative will inform Game of emergency or unusual events in Project construction and operation. The representatives should meet as necessary but at least once a year to review Project mitigation.

The District or Game may change the designation of its representative by giving the other party written notice of the name of the replacement representative.

12. Dissemination of Information

Reports, records and information developed or retained by or under the control of the District or Game relative to habitat management, wildlife and fish management, and wildlife and fish populations in the Cowlitz Falls Project area shall be made readily available to the parties.

13. Game Activities

- a) Game agrees to conduct its activities and operations so as not to interfere with the proper and safe construction and operation of the District's Cowlitz Falls Project and its related facilities.
- b) Game has the right to utilize the Wildlife Mitigation Lands to manage fish and wildlife resources outside the scope of the Mitigation Plan, including for public hunting and fishing, provided that such use does not result in increased cost to the District.

14. Anadromous Fish

The District and Game agree it may be desirable to return the upper Cowlitz River basin to anadromous fish production. The District will cooperate with Game, the Washington Department of Fisheries, and funding agencies in the reintroduction of anadromous species in the upper basin. The District's obligation and liability for anadromous fisheries shall be limited to the design of the Project to accommodate the future addition of facilities for capturing and collecting

downstream migrants.

15. Final Wildlife Mitigation Lands

If a parcel(s) of Wildlife Mitigation Land is not available for development in accordance with the Project schedule, or is withdrawn for use other than for Wildlife Mitigation Lands, the District will inform Game of the difficulty in obtaining, or of withdrawal of, such parcel, and the effect on the Mitigation Plan. The District may, with Game's concurrence, wait a reasonable time to acquire such parcel even though timing is outside the Project schedule, or substitute an acreage with equivalent habitat value, or otherwise agree with Game on a solution.

Within two years after start of Commercial Operation of the Project, the District will send Game a map(s) showing final Wildlife Mitigation Lands with habitat types and habitat unit goals. These lands may or may not be in the FERC Project boundary.

It is the District's desire to own in fee simple all Wildlife Mitigation Lands.

16. Changes in Methods

It is desired to manage the Wildlife Mitigation Land using the most effective and economical methods available. If more efficient and better suited methods for maintaining habitat values are developed, the District and Game may alter management techniques used in the Mitigation Plan.

17. Mitigation Monitoring

A monitoring program will be conducted every five (5) years during the life of the license. The monitoring will evaluate the progress of Wildlife Mitigation Lands toward reaching habitat unit goals. The program is further described in the Mitigation Plan.

18. Existing Conditions

The District and Game recognize that some changes in land use and vegetation will have occurred between the time the Mitigation Plan was developed and the time it is implemented. Some minor changes in initial land management techniques might be necessary to obtain the preferred habitat values.

19. Reservoir Operations

The Project will primarily operate as a run-of-the-river

plant, with flows through the turbine(s) nearly matching the incoming stream flow. The reservoir level will essentially remain at a constant elevation with limited active storage; however, daily variations of approximately one to two feet could be expected under normal operating conditions. Reservoir operations will be within the requirements of the FERC License.

During the drawdown periods of Riffe Reservoir (below elevation 750 ft. msl), the flow below the Project will be maintained at the lesser of a minimum of 1,000 cubic feet per second (cfs) or whatever natural flow occurs.

20. Emergency Operation

Potential flood conditions, sediment build-up, or other emergency situations (e.g., earthquake, volcanic eruption, severe erosion, request of authorities) may require immediate reduction of the reservoir level. Game will be notified of such an event.

21. Buffer Zone Management Plan

The District will consult with Game in the development of the Buffer Zone Management Plan. The District wishes to limit and resolve potential conflicts associated with use and management of Buffer Zone lands for wildlife, recreation, and use by adjacent land owners (e.g., farming and logging). Game recognizes other land uses within the Buffer Zone, the need for such a plan, and agrees to help District resolve related conflicts.

22. Project Operational Plans

The District, as part of the FERC requirements for the operation of the Project, will develop normal operational procedures to handle debris and sedimentation. These plans may require the removal of trees and snags within the flood plain to minimize spillway blockage. A copy of these plans will be forwarded to Game for review and recommendation. The District will include Game's recommendations in these plans to the extent reasonably possible.

23. Soil Erosion Plan

The District shall submit a final soil erosion plan to Game during the final design phase of the Project. At that time, the District will address such issues as spoil areas, bank cuts, roads, concrete cure and other construction activities. Specific measures to reduce possible siltation and enhance reseeded vegetation shall be examined. The soil erosion

plan will be submitted to Game as part of the Hydraulic Project Approval (HPA) for the Project. No major construction will start without Game's issuance of the HPA. Game will act expeditiously on the processing of the HPA in order not to cause delay of the Project.

24. Amendments

This Agreement, as well as the Mitigation Plan, may be amended from time to time if agreed upon in writing by both parties and with the approval of FERC.

25. Dispute Resolution

If either party desires arbitration, it shall notify the other party in writing of such desire and state the name of the person selected by it as one of the three arbitrators. Within thirty (30) days after receipt of such notice, the other party shall mail written notice to the party, initiating the arbitration, containing the name of the person selected as the second arbitrator. The two arbitrators so selected shall select a third arbitrator. If the two arbitrators do not agree as to the third arbitrator within 30 days after the selection of the second, either party may request the presiding judge of the Lewis County Superior Court to select the third arbitrator. The arbitrator shall be governed by the laws of the State of Washington (Chapter 7.04).

26. Applicable Laws

This Agreement shall be governed by the Laws of the State of Washington. Venue for any cause of action based upon this Agreement shall be in Lewis County, Washington.

27. Validity of Agreement

In the event any section, sentence, clause or phrase of this Agreement shall be adjudicated by a court of last resort and of competent jurisdiction to be invalid or illegal, the remainder of this Agreement shall be unaffected by such adjudication, and all other provisions of this Agreement shall remain in full force and affect as though the section, sentence, clause or phrase so adjudicated to be invalid had not been included herein.

PUBLIC UTILITY DISTRICT NO. 1  
OF LEWIS COUNTY

By *Francis S. Miller*  
President

ATTEST:

By *John S. Smith*  
Secretary

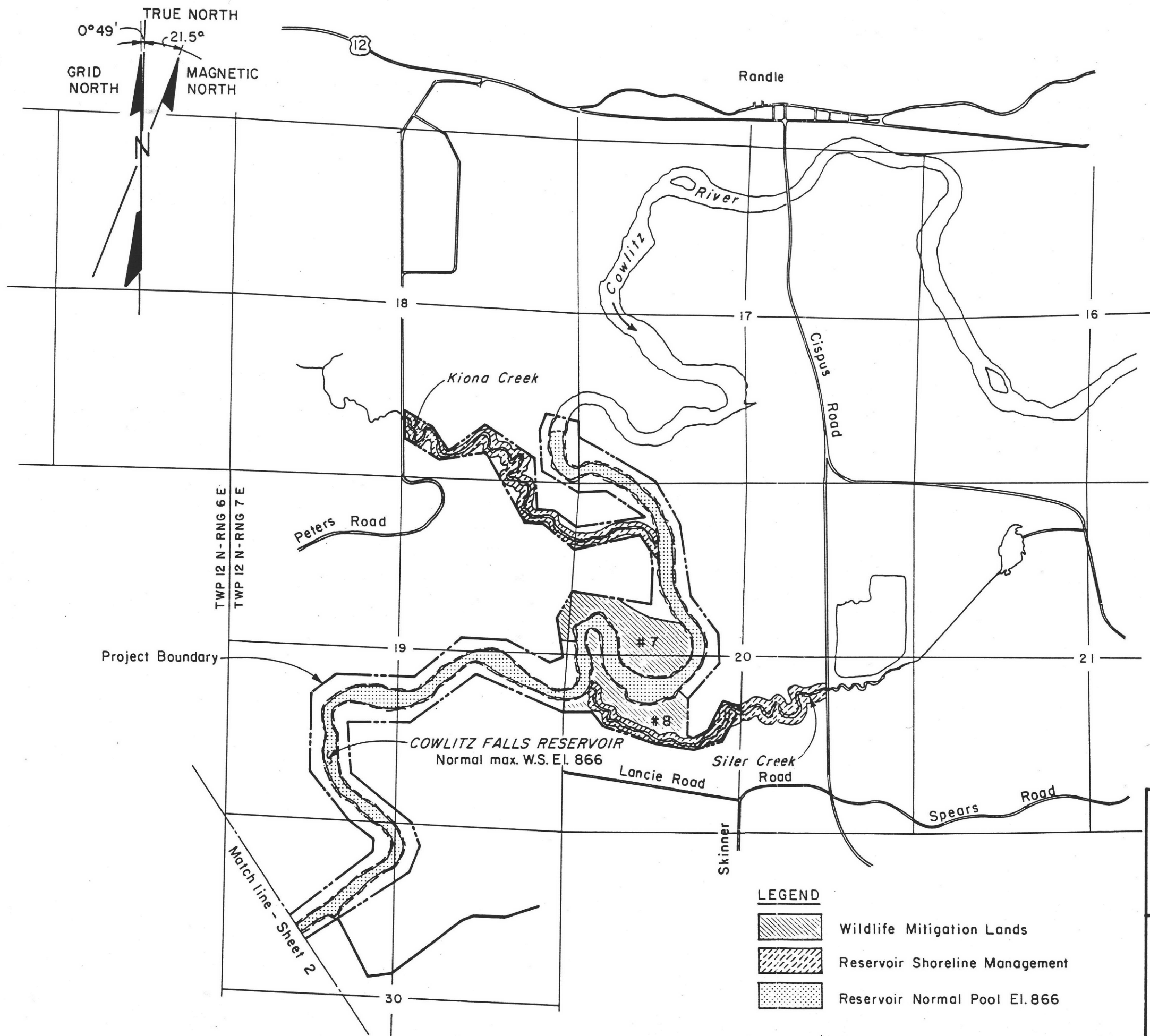
By *James O. Aubertke*  
Commissioner

WASHINGTON STATE  
DEPARTMENT OF GAME

By *Jack W. Wainwright*  
Director, Washington  
State Department of Game

Approved as to Form this 25  
day of February,  
19 86.

*Carol Horan Rainey*  
Assistant Attorney General

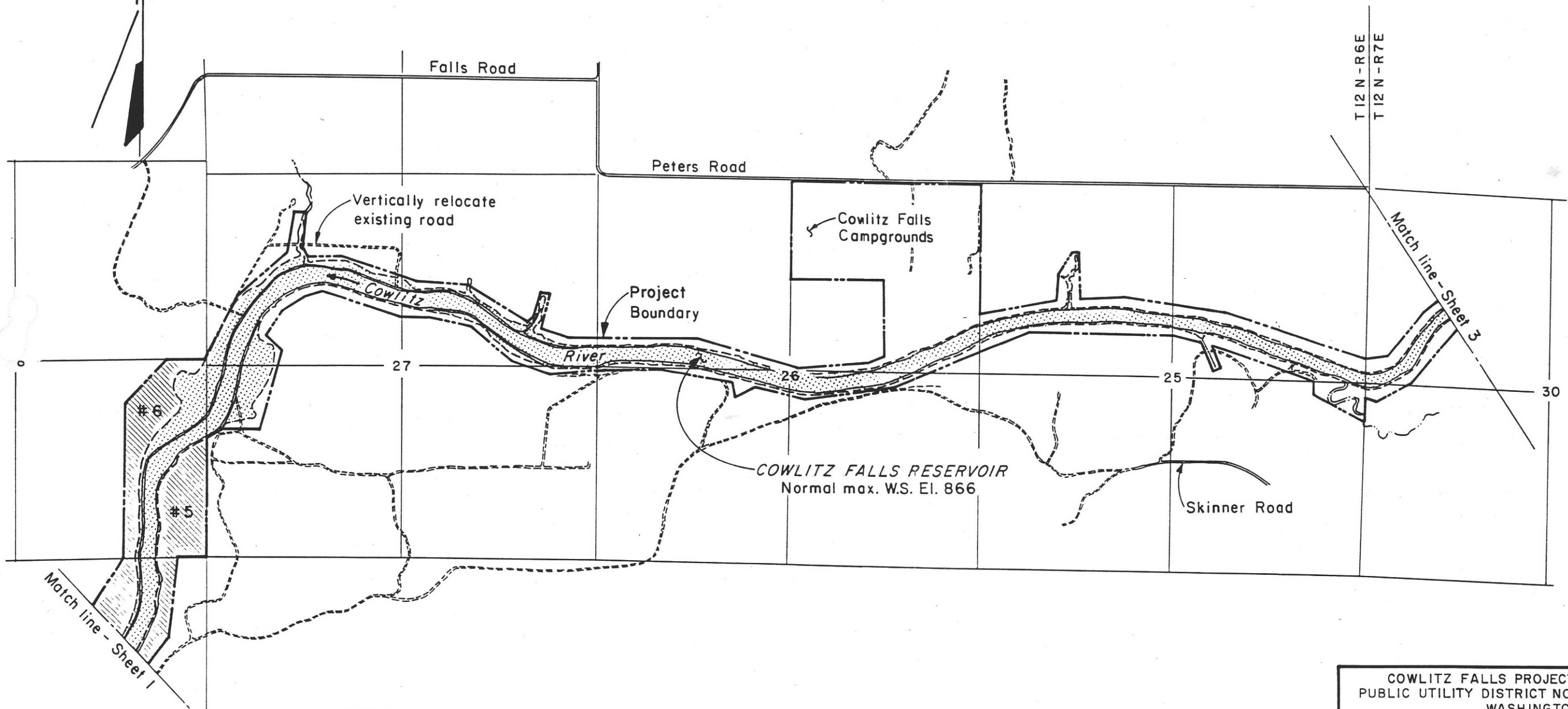
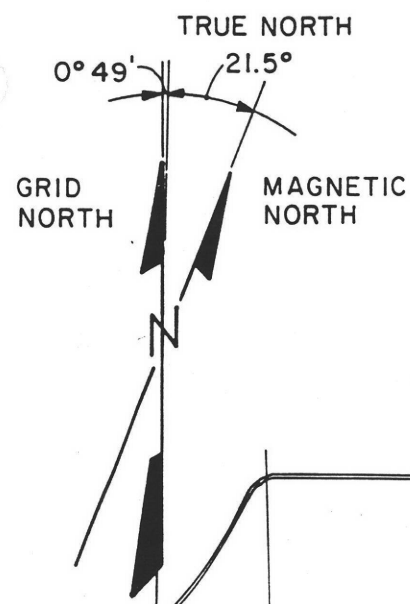


LEGEND

- Wildlife Mitigation Lands
- Reservoir Shoreline Management
- Reservoir Normal Pool El. 866

COWLITZ FALLS PROJECT - FERC NO. 2833  
PUBLIC UTILITY DISTRICT NO. 1 OF LEWIS COUNTY,  
WASHINGTON  
WILDLIFE MITIGATION LANDS  
SHEET 3 OF 3  
1500' 0 1500' 3000'  
SCALE: 1"=1500'



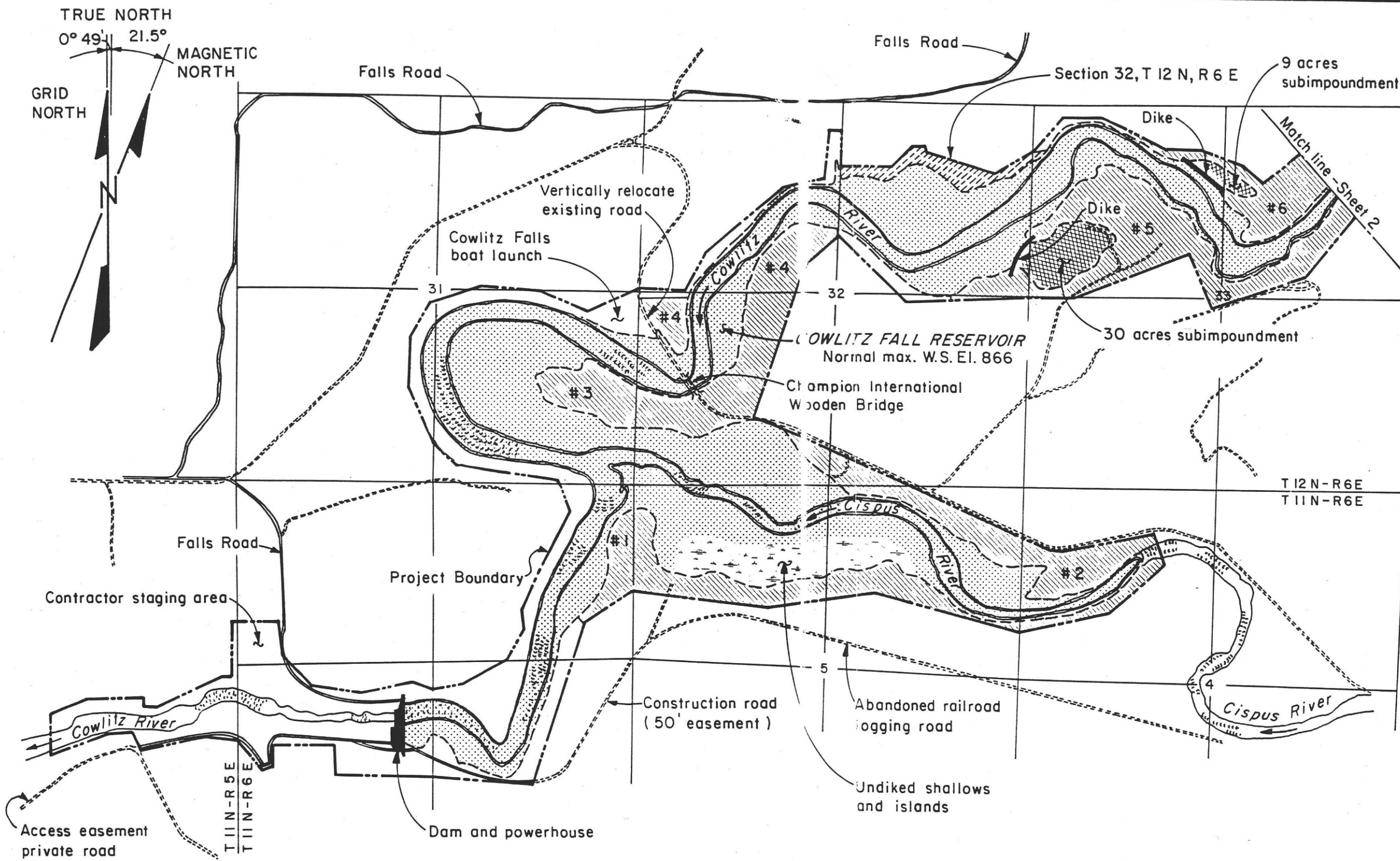


- LEGEND**
- Wildlife Mitigation Lands
  - Reservoir Normal Pool El. 866

COWLITZ FALLS PROJECT - FERC NO.2833  
PUBLIC UTILITY DISTRICT NO.1 OF LEWIS COUNTY,  
WASHINGTON  
**WILDLIFE MITIGATION LANDS**  
SHEET 2 OF 3

1500' 0 1500' 3000'

SCALE : 1" = 1500'



**Summary**

**Wildlife Mitigation Lands**

Site Number	Approximate Size (acres)
1	50
2	53
3	35
4	56
5	132
6	71
7	20
8	17
<b>TOTAL</b>	<b>434</b>

- LEGEND**
- Wildlife Mitigation Lands
  - Reservoir Shoreline Management
  - Reservoir Normal Pool El. 866
  - Subimpoundments
  - Undiked shallows and islands

COWLITZ FALLS PROJECT - FERC NO. 2833  
PUBLIC UTILITY DISTRICT NO. 1 OF LEWIS COUNTY,  
WASHINGTON  
**WILDLIFE MITIGATION LANDS**  
SHEET 1 OF 3  
1500' 0 1500' 3000'  
SCALE: 1" = 1500'

**COWLITZ FALLS PROJECT**

**FISH AND WILDLIFE MITIGATION PLAN**

**February 24, 1986**

**Public Utility District No. 1 of Lewis County**  
**and**  
**Washington State Department of Game**

**Section 1 - Wildlife Plan**

**Section 2 - Fisheries Plan**

**Section 3 - Threatened or Endangered Species  
Mitigation and Enhancement Plan**

**Section 4 - Reservoir Level at 862 Feet MSL**

**Section 5 - Maps**

## MITIGATION PLAN

### SECTION 1

#### Wildlife Plan

##### Preface

The goal of the Wildlife Plan is to preserve wildlife resources affected by the Project. Fundamental to the Plan is the proposition that wildlife resources will be retained if suitable habitats are established and maintained. The Wildlife Mitigation Plan will preserve habitats, where appropriate, and enhance habitats in other areas through management techniques as described herein. The Habitat Evaluation Procedure (HEP) developed by the U.S. Fish and Wildlife Service was used to determine habitat units with and without the Project. The Wildlife Plan is designed to maintain habitat values equal to the no-project condition.

The following measures will mitigate, compensate and enhance wildlife habitat for the Cowlitz Falls Project at a reservoir elevation of 866 ft. msl. Adjustments to reflect impacts at reservoir elevation 862 ft. msl are discussed in Section 4. Maps in Section 5 show the size and the location of Wildlife Mitigation Lands.

##### Management Techniques

To increase the wildlife carrying capacity of Wildlife Mitigation Lands, certain management techniques are proposed. The techniques listed will act as a guideline for the type of activities to be implemented by the District during an initial period of two to five years. Some of these techniques will be repeated at five year intervals to maintain habitat value. It is recognized that some items (e.g., nest boxes, erosion areas) may require annual maintenance. These techniques will from time to time be evaluated by the District and Game for effectiveness and modified as agreed.

1. Canopy Thinning. Forests will be thinned to open up the canopy to allow light penetration by selective cutting or establishing small clearcuts. This would primarily involve the removal or thinning of red alders. Bigleaf maple and cottonwoods would remain. Suggested percent canopy closure is given for each management unit (site).
2. Snag Management Program. To promote habitat for cavity nesters and to provide perch sites, snags and high stumps will remain. Several existing Douglas firs, and other species if available, greater than 15 feet tall, will be top cut or girdled to create new snags. The goal by conclusion of

the 50 year license period is up to five snags per acre.

3. Fertilization. To stimulate growth and increase available nutrients, revegetated shoreline area, newly established coniferous forest clearcuts and cleared areas will be initially fertilized. A soil test should be performed to analyze soil chemistry and soil nutrients. Input from the Lewis County Extension Agent in silviculture should be utilized before fertilizer and chemical application to Wildlife Mitigation Lands.
4. Planting Shrubs and Trees. All shrubs and trees, if possible, should be planted while dormant and should be bare root seedlings, one to two years old. Willows can be planted year round from cuttings. Sites to be planted should be first cleared of existing vegetation and lightly fertilized. Seedlings may require some protection from animals until vegetation reaches six to eight feet in height. Preferred planting schedules for shrubs and trees are listed in Tables 1 and 3. Other plant species may be substituted based on cost, availability and suitability. Native plant species are preferred to provide natural wildlife habitat. Cottonwoods and other danger species will be located away from the floodway.
5. Seeding. Seeding can be done year round if proper protective measures are taken to aid germination. To obtain maximum erosion control, early autumn seedings are preferred on roads, dikes and construction areas. A balanced starting fertilizer, such as 10-20-20 or 16-20-0, may be applied at the time of seeding. Mulching may also be necessary in some areas to maintain soil moisture. New plantings may require refertilization to maintain vigor. The preferred planting schedule for seeding is listed in Table 2. Other seed mixtures may be used based on cost, availability and suitability.
6. Shoreline/Riparian Establishment. To establish new shoreline/ riparian habitat along the reservoir edge, vegetation would be accelerated by using certain procedures. Following acquisition of Wildlife Mitigation Lands, and where slope allows, up to a 50-foot wide strip of Wildlife Mitigation Lands along the reservoir will be selectively clearcut. Planting with appropriate herb, shrub and tree species as indicated on Table 1 or Table 3 would occur in the following fall through spring. Other plant species may be substituted based on cost, availability and suitability. Only shoreline vegetation that will survive a pre-reservoir environment will be planted. All plantings shall be consistent with the District's management program for debris and sedimentation, which may require

trimming or removal of trees that impose a hazard along the floodway.

### Coniferous Managed Forests

The coniferous managed forests are divided into six sites. These areas are to be managed initially and at intervals of five years with techniques listed below. Limited logging activities can be maintained in order to selectively thin and to produce clearcut areas over the term of this Agreement. Sites are to be managed to produce a high habitat suitability index, as defined in the HEP, for black-tailed deer and ruffed grouse.

#### Site #1: Cispus River - West, 50 acres

1. Initial Management
  - a) Canopy thinning (30% closure)
  - b) Begin snag management program (goal - 5 snags/acre in 50 years)
  - c) Fertilization (in cleared acres)
  - d) Shoreline/riparian establishment (plant apple, plum and cottonwood seedlings per Table 3)
  - e) Limit access to site and seed roads (per Table 2)
2. Five Year Management
  - a) Evaluate site success
  - b) Canopy thinning and new clearcuts
  - c) Fertilization

#### Site #2: Cispus River - East, 53 acres

1. Initial Management
  - a) Canopy thinning (30% closure)
  - b) Leave 25 ft. wide uncut border along road
  - c) Begin snag management program (goal - 5 snags/acre in 50 - years)
  - d) Shoreline/riparian establishment (plant per Table 1)

- e) Limit access to site and seed logging roads (per Table 2)
- 2. Five Year Management
  - a) Evaluate site success
  - b) Canopy thinning and new clearcuts
  - c) Fertilization

Site #3: Oxbow Cowlitz River, 35 acres

- 1. Initial Management
  - a) No thinning required until 1996
  - b) Leave trees within 25 ft. of bordering road
  - c) Begin snag management program (goal - 5 snags/acre in 50 - years)
  - d) Shoreline/riparian establishment on southern shoreline (plant per Table 1)
  - e) Fertilization
  - f) Limit access to site and seed logging roads (per Table 2)
- 2. Five Year Management
  - a) Evaluate site success
  - b) Canopy thinning and new clearcuts
  - c) Fertilization

Site #4: Boat Launch and Future Recreation Area, 56 acres

- 1. Initial Management
  - a) Canopy thinning (30% closure)
  - b) Leave trees within 25 ft. bordering road
  - c) Begin snag management program (goal - 5 snags/acre in 50 years)
  - d) Fertilization
  - e) Shoreline/riparian establishment (plant per Table 1)

- f) Limit access on south site and seed logging roads (per Table 2)

2. Five Year Management

- a) Evaluate site success
- b) Canopy thinning, if necessary
- c) Fertilization

Site #5: Dike Area, South Side - Cowlitz River, 132 acres

1. Initial Management

- a) Canopy thinning (30% closure)
- b) Begin snag management program (goal - 5 snags/acre in 50 years)
- c) Fertilization
- d) Shoreline/riparian establishment (plant clumps of apple, plum and cottonwood seedlings per Table 3)
- e) Limit access to site and seed logging roads (per Table 2)

2. Five Year Management

- a) Evaluate site success
- b) Canopy thinning
- c) Fertilization

Site #6: Dike Area - North Side Cowlitz River, 71 acres

1. Initial Management

- a) Canopy thinning (30% closure)
- b) Begin snag management program (goal - 5 snags/acre in 50 years)
- c) Fertilization
- d) Shoreline/riparian establishment (plant per Table 1)
- e) Limit access to site and seed logging roads (per Table 2)



## 2. Five Year Management

- a) Evaluate site success
- b) Canopy thinning, if necessary
- c) Fertilization

### Deciduous Managed Forests

Site #7: Upper River North Shore, 20 acres

Site #8: Upper River South Shore, 17 acres

- 1. Sites #7 and #8 are primarily composed of bigleaf maple. Management will consist of fencing out livestock to establish dense ground cover. These areas will be kept in deciduous forest. Scattered snags will be created out of large maples to serve as nest trees for cavity nesters.

### Transmission Corridor Management

The corridor will be at least 75 feet in width and cut through approximately two miles of red alder/Douglas fir forest (18 acres). The corridor will be cleared during the construction of the transmission line. An attempt will be made to break up the tunnel effect caused from clearing of the right-of-way. The corridor will be reseeded to prevent erosion and to provide forage for wildlife species. A small planting of apple, plum, crabapple and blueberry will be made at approximately 1,000-foot intervals. The corridor is not part of the Wildlife Mitigation Lands, but can provide substantial wildlife habitat.

Power poles, as much as practical, will be designed to provide a safe perch for raptors in accordance with the publication, "Suggested Practices for Raptor Protection on Powerlines - The State of the Art 1981," by Richard R. Olendorff. Nesting structures will also be installed on or near some of the poles in the two mile corridor.

### Diked Subimpoundments

Wetland South - 30 acres\* in Site #5

Wetland North - 9 acres\* in Site #6

\* Approximate size at reservoir elevation 866 ft. msl; smaller size at reservoir elevation 862 ft. msl.

- 1. Construction. Two inlets in the reservoir at the 866 ft. msl will be diked to form subimpoundments or wetland areas.

Construction of each subimpoundment will consist of building a 600 to 800 foot long dike across the inlet opening. Material for the dike will be obtained from deepening the pool area or other local sources. The top of the dike will be approximately two feet above the reservoir level with ends graded into the natural banks. A water level control structure such as a concrete structure with stop-planks will be incorporated into the dike. The stop-planks could be used as a means of lowering or raising a fixed crest spillway to pass excess run-off. The dike will be rip-rapped in danger areas, or otherwise designed to reduce risk of wash-outs from flooding.

The purpose of the dikes is to create wetlands by limiting or reducing water exchange with the Cowlitz River, to help maintain a fairly stable water level and to raise the temperature regime of the water. The dike may not, however, permit a sustained water level differential between the pond level and reservoir level due to substrate material.

2. Planting. It is expected that submergent and immergent vegetation would occur naturally in the subimpoundments. Shorelines to be planted would first be selectively clearcut a maximum of 50 feet back from the pool edge. Initially, dikes will be planted with grasses for erosion control (per Table 2). The following year the dikes will be planted with shrubs and trees (per Table 1).
3. Nest Boxes. Wood duck boxes will be installed on trees or platforms adjacent to the subimpoundment shorelines. Approximately three to six nest boxes per each subimpoundment will be needed. Annual maintenance will be required.
4. Maintenance (every five years). Habitat in the subimpoundments will be evaluated and, if necessary, the immergent and submergent vegetation may need to be controlled. The top of the dikes may require fertilization to maintain vegetation growth. The District will not be required to deepen subimpoundments after initial construction.

#### Undiked Shallows

The District will utilize spoil material from construction of the Project to create two to four islands on the west shore of the Cispus River. The size and number of islands will depend on the amount of suitable spoil material available. Management techniques will be similar to that of diked subimpoundments. Islands will not be replaced if destroyed (e.g., flooding, erosion).

### Reservoir Shoreline Management

1. Section 32, Township 12 North, Range 6 East. This area is presently void of a woody riparian vegetation. The District will plant a 50 ft. wide strip with shrubs and trees (per Table 1) and the remainder of this area within the Buffer Zone in Douglas fir.
2. Siler Creek. The District will fence and plant approximately a 100 ft. wide strip along Siler Creek from the Cowlitz River upstream to the Wood Creek Road bridge (approximately 1.5 miles). Planting would consist of Pacific willows next to the banks to control erosion and to provide creek cover. Cottonwoods would be planted next to the fence line. Sparsely vegetated areas will be planted with other shrubs and trees (per Table 1). Existing creek side vegetation would remain.

Cattle watering points and access across the creek would be permitted.

3. Kiona Creek. The District will fence and plant approximately a 100 ft. wide strip along Kiona Creek from the Cowlitz River upstream to the Peters Road bridge (approximately 1.3 miles). Existing fencing may be adequate in some places.

Planting would consist of Pacific willows next to the banks to control erosion and to provide creek cover. Cottonwoods would be planted next to the fence line. Sparsely vegetated areas will be planted with other shrubs and trees (per Table 1). Existing creek side vegetation would remain.

Cattle watering points and access across the creek would be permitted.

### Remaining Forested Reservoir Shoreline

The existing deciduous forested shoreline provides habitat for many species of wildlife. It is desirable to preserve as much of the deciduous forested shoreline as practical where consistent with other uses of Project lands. The District should avoid clearcut timber harvesting within 50 feet of the reservoir shoreline in these areas. The District's forested Project lands, where appropriate, will be harvested following the Washington Forest Practice Rules and Regulations (1976). Other uses of this shoreline will be permitted.

### Wildlife Mitigation Monitoring

A biologist will be used to help design, implement and monitor wildlife mitigation measures. The biologist will be available for

consultation during the final design phase, during the construction phase and thereafter until all management sites had been initiated.

The biologist's position will start part-time during the final design phase and continue during Project construction into Project operation until all management sites are developed. This period is expected to be four to five years.

Subsequently, at five-year intervals, a biologist will review mitigation status and recommend any adjustments to the Wildlife Plan. It is recognized that some items will also require annual maintenance.

#### Reporting

After all management sites have been developed, a status report on the Wildlife Plan will be prepared by the District's biologist. Updated maps (Section 5) showing Wildlife Mitigation Lands and the habitat types thereon, will be included. The report will contain recommended maintenance techniques to retain habitat values.

Subsequent reports to assess the Wildlife Plan will be prepared at five-year intervals. Copies of all these reports will be forwarded to Game.

#### Reservoir Clearing

To minimize the impact on wildlife, reservoir clearing will be deferred as long as practical. However, it is understood that clearing for Project features, access roads, quarries, spoil areas, and other necessary construction and mitigation areas may disturb vegetative areas at any early time. The District will provide Game a schedule and plan for reservoir clearing.

Planting Schedule  
**Cowlitz Falls Project**

Table 1

<u>Dikes, Island, Streams, and River Banks</u>	<u>Plant Part</u>	<u>Maximum Planting Density<sup>C</sup></u>
Pacific Willow	Cutting <sup>a</sup>	435/acre (50/100' x 50')
Red-osier Dogwood	Seedling <sup>b</sup>	174/acre (20/100' x 50')
Hawthorn	" b "	" "
Oceanspray	" b "	" "
Mockorange	" b "	" "
Red Elderberry	" b "	" "
Cottonwood <sup>e</sup>	" b "	" "
Oregon Crabapple	" b "	" "

Table 2

Seed Mixture for Dikes, Island,  
Roads, and Construction Site

Subterranean Clover	Seed	7 lbs./acre
White Clover	"	4 lbs./acre
Birdsfood Trefoil	"	6 lbs./acre
Sudangrass	"	20 lbs./acre
Tall Fescue	"	15 lbs./acre
Japanese Millet	"	20 lbs./acre
Trailing Blackberry	"	0.4lb./acre

Table 3

River Banks, Transmission Line<sup>d</sup>

Apple	Seedling	3 seedlings per grouping			
Plum	"	"	"	"	"
Oregon Crabapple	"	"	"	"	"
Blueberry	"	"	"	"	"
Cottonwood <sup>e</sup>	"	"	"	"	"

Notes:

- a - Seedling 2-3 feet tall
- b - Seedling 18-24 inches tall
- c - Type and numbers may vary with experience
- d - Preferred planting, may be substituted
- e - Planted away from flood plain - not to be located on transmission route

## MITIGATION PLAN

### SECTION 2

#### Fisheries Plan

##### Preface

The goal of the Fisheries Plan is no net loss of fisheries resources affected by the Project. The following measures will mitigate, compensate and enhance fisheries resources affected by the Cowlitz Falls Project at a reservoir elevation of 866 ft. msl. Adjustments to reflect impacts at reservoir elevation 862 ft. msl are discussed in Section 4.

##### Design and Construction Considerations

1. Spillway. The spillway will be designed and constructed to minimize nitrogen supersaturation below the dam (not greater than 105%).
2. Soil Erosion Control. Standard engineering practices will be used to minimize erosion while building the dam and roads, using borrow areas and depositing spoils. These activities will include proper land stabilization, reclamation and revegetation measures.
3. Migrant Fish Collection Facilities. The District, in the layout design of the Project, will make allowances for the future installation of downstream migrant fish collection facilities for the possibility of reintroducing anadromous fish into the upper Cowlitz River basin. If some other entity wishes to fund, construct, operate and maintain this and associated facilities, then the District will cooperate with the sponsor of the facilities.

##### Fish Stocking

1. Construction Impacts. It will be necessary to replace fishing opportunity loss during the construction of the Project. During the expected 31-month construction period, plants totaling 6,400 catchable-size rainbow trout (size - five trout per pound) will be made. The District will sponsor four plants of 1,600 trout each. Plants will be made in June and August of the first construction season, and then in June and August of the following year. Changes in the planting schedule can be made as agreed between the District and Game.

The District has the option of obtaining fish for stocking from private hatcheries or contracting with Game to supply and/or plant these fish.

2. Trout Stocking Program. The trout stocking program would develop a reservoir fishery resource enhanced by an annual stocking of trout. The reservoir will be planted with non-anadromous rainbow or cutthroat trout, probably beginning with catchable-size fish (five per pound).

The goal of the stocking program is to establish an overall catch per unit of effort of one-half fish per hour in the reservoir impounded by the Cowlitz Falls Project. The proposed reservoir area presently supports 1,400 angler trips annually. The program will provide fish up to a maximum of 50,000 annually, corresponding to a potential annual use figure of approximately 20,000 angler days (assuming five hours of actual fishing per day).

Plantings in the initial two years after reservoir fill shall consist of 5,000 legal-sized trout at five fish per pound planted following spill in June. Several locations in the reservoir will be planted to provide a distribution of fish. Additional plants of 5,000 and 2,500 trout will be made in July and August, respectively, of the initial two years. Creel censuses will be taken to ascertain the success or failure of the planting program, and the magnitude of downstream fish passage. After the initial two years of planting and if downstream fish passage of catchable trout is low, fingerling plants may be substituted in lieu of larger fish.

3. Subimpoundments. Two subimpoundments, 30 acres and 9 acres, will be diked off from the main reservoir to provide wildlife and fish habitat. The subimpoundments will be managed to encourage a spiny-ray fishery. Largemouth bass will be initially stocked at two adult bass per acre in September and 100 fingerlings per acre in May. Black crappie will be planted at one pair per acre.

It may be necessary to rehabilitate the subimpoundments periodically if overpopulation occurs. Populations in the subimpoundments will be evaluated every five years.

Game agrees to assist the District in acquiring largemouth bass and black crappie from local lakes to stock subimpoundments.

4. Source of Trout. The District has the option of obtaining fish for annual stocking from a variety of sources. They



include:

- a) Purchase from private vendor(s).
- b) Purchase from Game (when available).
- c) Funding additional raceway or rearing at Game hatchery.
- d) Any combination of the above.

Any fish secured from private vendors will be inspected by a pathologist to insure compliance with Game fish stocking requirements. The District will coordinate all stocking with Game.

#### Reservoir Habitat

To provide fish cover, substrate for macroinvertebrates and nutrients to the reservoir, areas of the proposed reservoir (mainly coves and inlets) will not be cleared. Prior to reservoir clearing, the District will provide Game a map indicating which areas are to have standing vegetation remain after inundation.

#### Stream Habitat Improvements

Stream habitat improvements will compensate for the loss or degradation of habitats caused by the Project. The improvements will consist of livestock control, instream habitat structures and stream bank revegetation. These measures would increase the value of streams for trout production. Common goals exist for fisheries and wildlife mitigation relative to riparian improvement. Therefore, the program for riparian management, described as a wildlife mitigation measure, will also benefit fishery resources.

1. Siler Creek. The District will fence a strip approximately 100 ft. wide along Siler Creek from the Cowlitz River upstream to the Wood Creek Road bridge, 1.5 miles. Cattle watering sites would be provided as requested by adjacent land owners.

At the lower 0.5 mile of the creek, it is estimated that seven instream devices or dam structures would be necessary to optimize the pool/riffle ratio. The banks will be revegetated as described in the Wildlife Plan.

2. Kiona Creek. The District will fence a strip approximately 100 ft. wide along Kiona Creek from the Cowlitz River upstream to the Peters Road bridge, 1.3 miles. Cattle watering sites would be provided as requested by adjacent land owners.

In this reach, instream devices or dam structures will be

installed to increase pool cover during low flows. It is preferred that boulders in groups of three be used as control structures. Careful attention not to compound a chronic flooding problem will be important. The banks will be revegetated as described in the Wildlife Plan.

3. Other Creeks. An additional 1.0 mile of stream habitat will be improved, preferably in additional reaches on Kiona and Siler Creeks. However, due to land owner resistance and the potential flooding problems on these creeks, other stream reaches in Lewis County may be substituted for improvement. The improvement will consist of securing, and if necessary fencing, a 100-foot wide strip and revegetating stream banks. Game will assist the District in suggesting alternative creeks and in obtaining the rights to implement improvements (conservation easements).

#### Fisheries Mitigation Monitoring

A biologist will be used to help design, implement and monitor fish mitigation measures. He will be available for consultation during the construction phase and to collect and analyze creel census data.

The biologist's position will start part-time during the final design phase and continue during Project construction and during the initial two years after reservoir fill while initial stocking programs are in progress.

Subsequently, at five-year intervals, a biologist will review mitigation status and recommend any adjustments to the Fisheries Plan. It is recognized that some items will also require annual maintenance.

#### Reporting

At the end of the second summer following reservoir fill, a status report on the fisheries mitigation program will be prepared by the District. The report will contain information on habitat improvement areas, including methods used, location of improvements and recommended procedures to maintain good habitats. Based upon previous years' reservoir stocking and creel surveys, the recommended stocking procedure for the next five years will be developed. Subsequent reports to assess the Fisheries Plan will be prepared at five-year intervals. Copies of these reports will be forwarded to Game.

## MITIGATION PLAN

### SECTION 3

#### Threatened or Endangered Species Mitigation and Enhancement Plan

Project impacts to threatened or endangered species are expected to be small. The U.S. Fish and Wildlife Service has indicated that the bald eagle (*Haliaeetus leucocephalus*) is the only threatened species occurring in the Project vicinity that is protected by the Endangered Species Act of 1973 (ESA). As required by the ESA, the District has consulted with the U.S. Fish and Wildlife Service to address potential adverse impacts which may occur with development of the Project. These impacts are associated with the possible loss of perch sites and disturbance during the construction of the Project.

The Cowlitz River appears to be a foraging area and flight pathway for wintering bald eagles during the months from January to March. Concentrations of eagles have been observed above the confluence area feeding on carrion at Tom White's Ranch (T12N, R6E, S27). No active or inactive bald eagle nests were observed in or near the Project area.

The following measures will mitigate any potential adverse impacts or effects on the bald eagle from the construction or operation of the Project, either at the 862 ft. msl or 866 ft. msl reservoir level.

#### Perch Sites

The availability of perch sites, tall trees and snags are scarce along the shorelines of the Cowlitz River in the Project reservoir area. To mitigate any Project impact to bald eagles, it is proposed to leave some vegetation standing in the new reservoir for perch sites. Additional perch sites would also be created by leaving selected trees around the perimeter of the reservoir and by the installation of artificial perches and roost sites. The planting of the new buffer zone with a number of cottonwoods would develop future live tree perch sites during the life of the Project. Location of cottonwood seedlings shall be located on higher ground to provide better perch sites and to prevent these future large trees from entering the floodway. Location shall be consistent with the District's debris management program and consistent with FERC requirements. The District and Game will survey the reservoir shoreline prior to the start of clearing activities for the Project to determine which trees are to remain as perch sites.

#### Artificial Perches

The artificial perch sites will consist of 23-foot poles

with 3 foot by 3 foot platforms placed on top. Mammalian predator guards should skirt each pole. These types of nest structures will be placed at approximately two-mile intervals along both sides of the reservoir. It is estimated that 10 to 20 perch sites will be located with the cooperation of Game. These sites will also provide nesting platforms for Ospreys.

#### Reservoir Clearing

To reduce any potential impact to wintering eagles from construction of the Project, reservoir clearing activities on the Cowlitz River upstream of the confluence with the Cispus River will be avoided during the period of January 1 to March 1. This will also reduce impact on other wildlife using this area. Activities as described in the Mitigation Plan to improve habitat for fish and wildlife will be allowed.

#### Transmission Line

Power poles, as much as practical, will be designed to provide a safe perch for raptors following the publication, "Suggested Practices for Raptor Protection on Powerlines - The State of the Art 1981," by Richard R. Olendorff.

## MITIGATION PLAN

### SECTION 4

#### Reservoir Level at 862 Feet MSL

The District has submitted a License Application for a Project reservoir level of 866 ft. msl. License Application studies assessed fish and wildlife concerns, and mitigation plans were developed for the associated impacts at the 866 ft. msl level. Due to FERC's concerns over other impacts of the Project at the 866 ft. msl level, the Project may be licensed at reservoir level of 862 feet msl. In the event that the alternative level is licensed, some changes will be made to the previously described Mitigation Plan to reflect the reduced impacts to fish and wildlife habitat.

At the 862 ft. msl reservoir level, there is approximately 100 acres less terrestrial habitat lost to inundation. In addition, Siler and Kiona Creeks are not effected by a slack water condition in their lower reaches.

To adjust mitigation to reflect the reduced impacts at 862 ft. msl reservoir level, the following modifications will be made to the Mitigation Plan.

1. Site #1 will not be included as Wildlife Mitigation Lands and will not be managed as described in the Wildlife Plan. Although a limited effort will be made to establish a new shoreline/riparian zone with the planting of groups of apple, plum and cottonwood seedlings, the acreage, if purchased, will be primarily managed as timberland. Upon harvesting, the largest clearcut area will be no greater than 10 acres.
2. Site #4 will not be included as Wildlife Mitigation Lands and will not be managed as described in the Wildlife Plan. A limited effort will be made to establish a shoreline/riparian zone by planting small areas of preferred wildlife shrubs and trees shown in Table 1. The acreage will be primarily managed as timberland and for recreation.
3. Stream habitat improvement management will be initiated only on 1.3 miles of Kiona Creek and 0.5 mile of Siler Creek.

If the District subsequently operates the Project at 866 ft. msl reservoir level, this Section 4 will be deleted and the additional mitigation will be implemented at that time.